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THRILLING WONDER STORIES

Vol. XXIX, No. 3 A THRILLING PUBLICATION February, 1947

Featured Complete Novelet

THE MANLESS WORLDS

By MURRAY LEINSTER

When monstrous conquest threatened the free Second Galaxy, Kim Rendell turned the disciplinary circuit against the tyrants who owned it—to win a war without firing a shot! 11

Other Complete Novelets

TROUBLE ON TITAN.....Henry Kuttner 36

The denizens of Saturn's largest moon were said to be harmless—but when Quade was sent to photograph them, he was in for a shock!

THE PLEASURE AGE.....Joed Cahill 58

Riley Ashton rebelled against mankind's robot-run Utopia, and it was a good thing he did when the robots began to run down!

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Cover Painting by Earle Bergey—Illustrating "Trouble on Titan"

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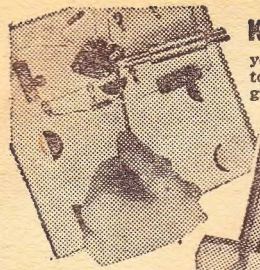

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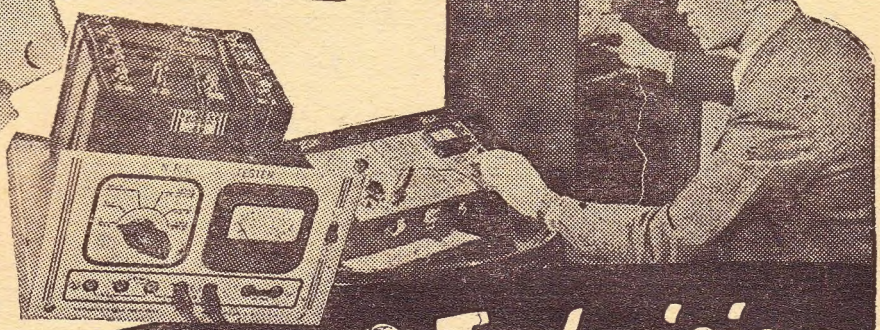

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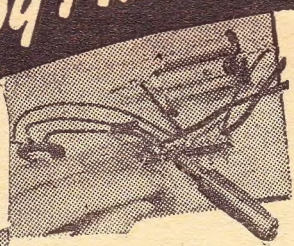

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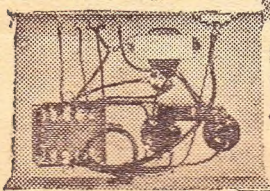

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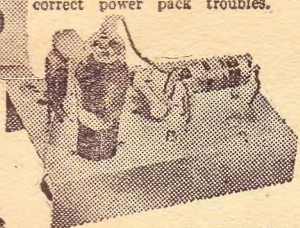

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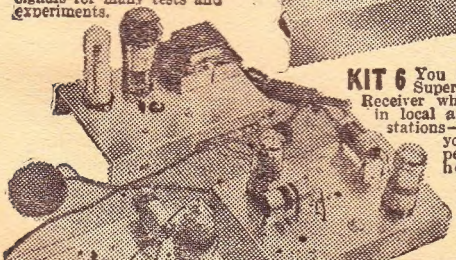

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THE denicotinized—or rather de-Xenoized—Sarge writes again! Who says bad puns are out in THE READER SPEAKS?

As the letters which follow will convince even the most rabid Xenophile that reader opinion is on the side of the Sarge's step upward toward sub-adolescence, so their very quantity has enforced upon him another change in policy. This one, mind you, has been adopted without your correspondent having a thing to say in the matter. It's strictly you writer-inners' own deed.

Heretofore it has been our custom to select, say, twelve to fifteen letters from a stack which, once missives from illiterates, crack-pots and those whose writing was illegible were weeded out, offered no great problem of selection. Once or twice within our living memory we were even hard put to it to find that many epistles worthy of publication.

Now, however, the dam has bursted and the Sarge is fleeing for the hills post-haste. Of recent months the formerly modest if usually adequate pile of letters has been rising ominously albeit most pleasantly. This seems to us to offer definite proof that science fiction is definitely on the upbeat—furthermore it provides potent justification of the Sarge's recent elimination of Xeno, gremlins and space-jive chatter.

At any rate, with more than a hundred perfectly readable letters to choose from after the garbage has been deposited in the wastebasket, the publication of a mere dozen or more seems hardly fair. That would mean only one in nine or ten would ever see print.

So—the old order changeth still further. . . .

Commencing right now, we are going to run as many epistolatory messages as the traffic will bear. Necessarily, in doing so, we must perforce use the shears and blue pencil as they have never in this column been used before.

Where certain of our correspondents (your Sarge, sadder and wiser, knows better than to mention names this time) have been wont to ramble on and on with personal chitchat, sometimes funny, sometimes spiteful, more often supremely windy, their letters will hereafter be cut down to the well known gist—or pith if you prefer. Otherwise we'll be running right out of the magazine.

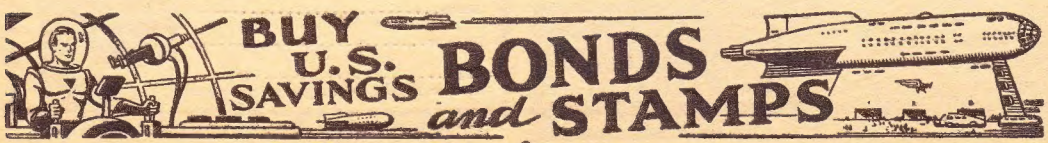
So a lot more of you are going to get into print—since there are a lot more of you. But don't howl too loudly if you appear in curtailed form. Shorter, more cogent letters will, if they are cogent enough, appear in toto. So for Pete's sake keep writing and remember the Sarge welcomes controversy with wide-open arms. After reading Letters from Readers, give us some idea of how you like it in its new and multiplied setting.

OUR NEXT ISSUE

A LOT of you readers have been asking for something new, and it is our sincere belief that at long last we have it for you. "It" in this case is the first of a new and very different series by a brand-new author. The story, a novelet entitled THE GREGORY CIRCLE, by William Fitzgerald, will appear in the forthcoming April issue of TWS.

When Geiger counters at the Bureau of Standards in Washington, D. C., went crazy so that it was possible to standardize the by-products of atomic piles turning out nuclear explosives for national defense. . .when forty head of cattle on a West Virginia hillside lay down and died and a trout-stream in Georgia was found to be full of dead fish. . .

(Continued on page 8)



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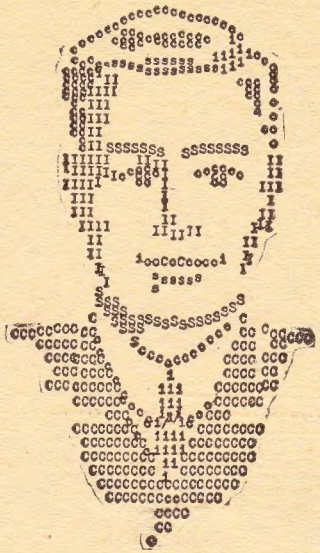

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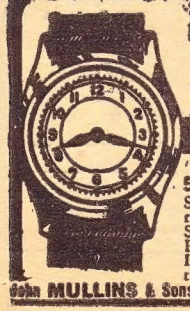

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THE READER SPEAKS

(Continued from page 6)

when four cancer patients in a home for incurables in Frankfort, Kentucky, suddenly took an impossible turn for the better. . .when Cincinnatians en masse developed blood alterations . . . . it was quite evident that something was wrong somewhere in the atomic world.

Officialdom threw up its hands in despair—all save a vacationing scientist of the Bureau of Standards, Dr. David Murfree, who studied some weather maps and got a glimmering of what had to be going on.

Dr. Murfree decided to spend the rest of his vacation in the Great Smokies and set off for the hinterland mountains in his far-from-new car—to make the most amazing human discovery since the birth of Leonardo da Vinci. The discovery was hill-billy mechanic Bud Gregory, who infinitely preferred settin' to any other form of activity and who had. . .but it's all in THE GREGORY CIRCLE and THE GREGORY CIRCLE is all in our April issue. It's new and, like its principal character, is touched with genius.

Something different too, is the featured novel for the issue, WAY OF THE GODS, by Henry Kuttner. With the mutations of an atomic world just around the corner, this story ranks not only high in pseudo-science and fantasy, but may well have prophetic value to match.

It tells of winged Kern and three-eyed Kua and other spawns of atomic fission, gathered in the Brewster asylum by a man whose own son was not quite human. Threatened with euthanasia by a humanity which fears their super-talents, they make use of their powers to flee to a distant world which is populated with their own kind—and find themselves engaged in one of the most suspense-ridden and bizarre struggles for existence ever conceived in print. Henry Kuttner's newest long effort is one that should haunt you, awake and asleep, when you have turned the page upon its final paragraph.

QUEST TO CENTAURUS, an amazing novelet by George O. Smith in the same issue, should also provide plenty of thought-fodder. It concerns Captain Alfred Weston, who, blasted out of action at the very beginning of the Martian War, is given a cush assignment to restore his self-esteem.

The entire Solar System has for some time been deluged with handwritten memorials stating—JORDAN GREEN HAS BEEN HERE. It is his job to run them all down and to discover the identity of the traveller who, from Mercury to the moons of Neptune, has inscribed his name on every unlikely flat

(Continued on page 96)

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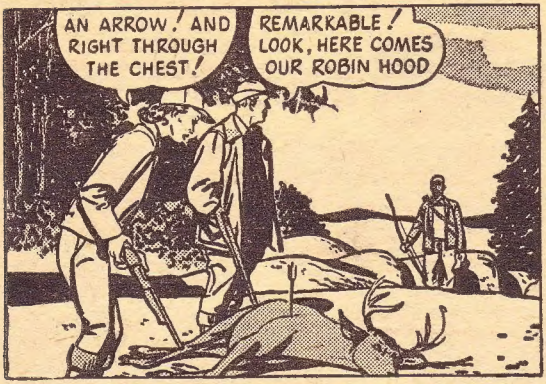
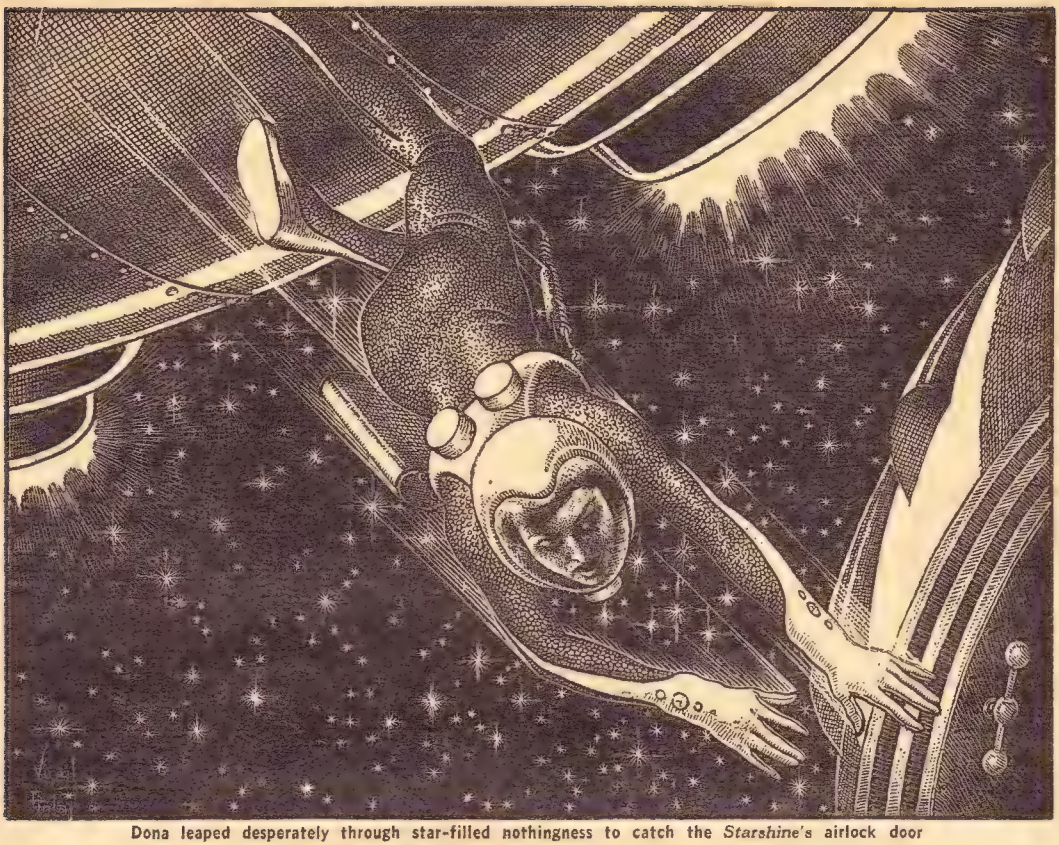
HERB'S ARROW HIT THE MARK AND THEN . . .



HERB HALL! WHY, DAD, HE'S THE MOVIE ARCHER!
DISCOVERED BENEATH MY BACKWOOD'S BEARD. AND AREN'T YOU PAUL LAURIE, THE FAMOUS HUNTER?

SO NEXT WEEK WE HOP TO ALASKA FOR GIANT MOOSE. LIKE TO COME ALONG?
WOULD I! AND HOW!
WONDERFUL . . HE'S KEEN
TAKE ALONG SOME THIN GILLETTES, PAL

YOU LOOK AND FEEL RIGHT ON THE BEAM WHEN YOU SHAVE WITH THIN GILLETTES. THEY'RE THE SHARPEST, LONGEST-LASTING BLADES IN THE LOW-PRICE FIELD. WHAT'S MORE . . . AND THIS IS IMPORTANT . . . THEY FIT YOUR GILLETTE RAZOR PERFECTLY, PROTECTING YOU FROM THE IRRITATION CAUSED BY MISFIT BLADES AND FAULTY SHAVING METHODS. ASK FOR THIN GILLETTES
THIN Gillette BLADES
4 for 10¢



Dona leaped desperately through star-filled nothingness to catch the *Starshine*'s airlock door

The Manless Worlds

By MURRAY LEINSTER

When monstrous conquest threatened the free Second Galaxy, Kim Rendell turned the disciplinary circuit against the tyrants who owned it — to win a war without firing a shot!

CHAPTER I

Empires in the Making

THE speaker inside the house spoke softly.

"Guests for Kim Rendell, asking permission to land."

Kim stared up at the unfamiliar stars of the Second Galaxy, and picked out a tiny winking light with his eyes. He moved to a speaker-disk.

"Land and be welcomed." To Dona he added, "It's a flier. I've been expecting something like this. We need fuel for the *Starshine* if we're not to be stuck on this one

planet forever. My guess is that somebody has come through the matter-transmitter from Ades to argue about it."

He moved to the edge of the terrace to watch the landing. Dona came and stood beside him, her hand twisting into his. The night was very dark, and the two small moons of Terranova cast no more than enough light to outline nearby objects. The house behind Kim and Dona was low and sprawling and, on its polished outer surface, unnamed Second Galaxy constellations glinted faintly.

The flier came down, black and seemingly ungainly, with spinning rotors that guided and controlled its descent, rather than sustaining it against the planet's gravity. The extraordinarily flexible vegetation of Terranova bent away from the hovering object. It landed and the rotors ceased to spin. Figures got out.

"I'm here," said Kim Rendell into the darkness.

Two men came across the matted lawn to the terrace. One was the colony organizer for Terranova and the other was the definitely rough-and-ready mayor of Steadheim, a small settlement on Ades back in the First Galaxy.

"I am honored," said Kim in the stock phrase of greeting.

The two figures came heavily up on the terrace. Dona went indoors and came back with refreshments, according to the custom of Ades and Terranova. The visitors accepted the glasses, in which ice tinkled musically.

"You seem depressed," said Kim politely, another stock phrase. It was a way of getting immediately to business.

"There's trouble," growled the Mayor of Steadheim. "Bad trouble. It couldn't be worse. It looks like Ades is going to be wiped out. For lack of space-ships and fuel. Those so-and-so's on Sinab Two!"

"Lack of space-ships and fuel?" protested Kim. "But you're making them!"

"We thought we were," growled the Mayor. "We've stopped. We're stuck. We're finished—and the ships aren't. The same with the fuel. There's not a drop for you and things look bad! But we can't make ships, and we couldn't make fuel for them if we could! That's why we've come to you. *We've got to have those ships!*"

He pounded with his fist for emphasis. Kim blinked at him. After twenty thousand years of civilization it was odd to hear a man say that it was impossible to make anything that happened to be wanted. Most of the peoples of the First Galaxy, to be sure, were hardly progressive.

Every habitable planet had been explored and colonized, and the human race swarmed and bred from rim to rim. But on every planet but one—Ades—men were enslaved by the Disciplinary Circuit, which, as an agent of government subjected every citizen on every planet to torture or death at the whim of his rulers.*

So everywhere but on Ades in the First Galaxy progress had come to an end and only those people who, for intelligence or crime or rebellion or the lack of a sheeplike spirit, had been exiled to Ades looked forward to any further triumphs for mankind.

Kim Rendell—himself a fugitive from the planet Alphin Three—had allied himself with them and the colony on Terranova was a victory of his contriving.

It was the first foothold of the human race across the monstrous void surrounding the First Galaxy.

It was the promise of all the island universes in all the cosmos, opened for the use of men. It had seemed that an unending march of triumph lay ahead. So it was incredible that the men of Ades should be unable to make space-ships or the fuel needed for ships to subjugate the new galaxy.

"But why not?" demanded Kim. "What's preventing it? You've got the record-reels from the *Starshine!* They tell you everything, from the first steps in making a ship to the last least item of its outfitting! You know how to make fuel!"

ALL that was true. On most planets, to be sure, the making of space-ships was not even dreamed of—abandoned even in the amusement reels as too antique to be amusing. Space-travel by ship had ceased centuries since. Matter-transmitters on every planet conveyed persons and things from one solar system to another in infinitely less time and with infinitely greater convenience.

The *Starshine,* in fact, had been the last ship known to make an interstellar voyage, and she was a museum-exhibit on Alphin Three when Kim Rendell and Dona drove her through the museum roof and set out to

*(*The Disciplinary Circuit," by Murray Leinster,* THRILLING WONDER STORIES, *February, 1946)*

The men from Sinab Two were very friendly—and women crowded about them

find a place where they could be free.

They'd had a bad time of it. They'd have died helplessly because of the little ship's inherent limitations, had not Kim applied his matter-transmitter-technician's knowledge and modified its drive past recognition.

He'd made the little ship into a matter-transmitter which received itself, traveling light-millenia in microseconds, and at long last he and Dona had found a haven on Ades —the prison world to which all malcontents were exiled and from which no exile had ever escaped.

The modified *Starshine* had ended that state of things. She carried a matter-transmitter to the Second Galaxy, and the folk of Ades streamed through to a new island universe and with infinite opportunity before them.

But the *Starshine* had still been the only ship in space as far as anyone knew. So others had been begun, back on Ades. They would open planets by hundreds of millions for occupation. But now—

"Space!" exploded the Mayor of Steadheim. "Of coure we know how! We know all about it! There are fifty useless hulks in a neat row outside my city—every one unfinished. We're short of metal on Ades and we had to melt down tools to make them, but we did—as far as we could go. Now we're stuck and we're apt to be wiped out because of it!"

The Mayor of Steadheim wore a bearskin cap and his costume was appropriate to that part of Ades in which his municipality lay. He was dressed for a subarctic climate, not for the balmy warmth of Terranova, where Kim Rendell had made his homestead. He sweated as he gulped at his drink.

"Tell me the trouble," said Kim. "Maybe—"

"Hafnium!" barked the mayor. "There's no hafnium on Ades! The ships are done, all but the fuel-catalyzers. The fuel is ready —all but the first catalyzation that prepares it to be put in a ship's tanks. We have to have hafnium to make catalyzers for the ships. We have to have hafnium to make the fuel!

"We haven't got it! There's not an atom of it on the planet! We're so short of heavy elements, anyhow, that we make hammers out of magnesium alloy and put stones in 'em to give them weight so they'll strike a real blow! We haven't got an atom of hafnium and we can't make ships or run them either without it!"

Kim blinked at the Colony Organizer for Terranova.

"Here—"

"No hafnium here either," said the Colony Organizer gloomily. "We analyzed a huge sample of ocean salts. If there were any on the planet there'd be a trace in the ocean. Naturally! So what do we do?"

KIM spoke unhappily.

"I wouldn't know. "I'm a matter-transmitter technician. I can do things with power and, of course, I understand the *Starshine's* engines. But there's no record of the early, primitive types that went before them —types that might work on other fuel. Maybe in some library on one of the older planets— But at that, the fuel the *Starshine* used was so perfect that it would be recorded thousands of years back."

"Take a year to find it," said the Mayor of Steadheim bitterly. "If we could search! And it might be no good then! We haven't got a year. Probably we haven't a month!"

"We're beaten," mourned the Colony Organizer. "All we can do is get as many through the Transmitter from Ades as possible and go on half rations. But we'll starve."

"We're *not* beaten!" roared the Mayor of Steadheim. "We'll get hafnium and have a fighting fleet and fuel to power it! There's plenty of the blasted stuff somewhere in the galaxy! Kim Rendell, if I find out where it is, will you go get it?"

"The *Starshine*," said Kim grimly," barely made it to port here. There's less than six hours' fuel left."

"And who'd sell us hafnium?" demanded the Colony Organizer bitterly. "We're the men of Ades—the rebels, the outlaws! We were sent to Ades to keep us from contaminating the sheep who live under governments with disciplinary circuits and think they're men! We'd be killed on sight for breaking our exile on any planet in the First Galaxy! Who'd sell us hafnium?"

"Who spoke of buying?" roared the mayor. "I was sent to Ades for murder! I'm not above killing again for the things I believe in! I've a wife on Ades, where there are ten men for every woman. I've four tall sons! D'you think I won't kill for them?"

"You speak of piracy," said the Colony Organizer, distastefully.

"Piracy! Murder! What's the difference? When my sons are in danger—"

"What's this danger?" Kim said sharply. "It's bad enough to be grounded, as we seem to be. But you said just now—"

"Sinab Two!" snorted the Mayor of Steadheim. "That's the danger! We know! When a man becomes a criminal anywhere he's sent to us. In the First Galaxy a man with brains usually becomes a criminal. A free man always does! So we've known for a long while there were empires in the making. You heard that, Kim Rendell!"

"Yes, I've heard that," agreed Kim.

So he had, but only vaguely. His own home planet, Alphin Three, was ostensibly a technarchy, ruled by men chosen for their aptitude for public affairs by psychological tests and given power after long training.

Actually it was a tyranny, ruled by members of the Prime Council. Other planets were despotisms or oligarchies and many were kingdoms, these days. Every possible form of government was represented in the three hundred million inhabited planets of the First Galaxy.

But every planet was independent and in all—by virtue of the disciplinary circuit—the government was absolute and hence tyrannical. Empires, however, were something new. On Ades, Kim had barely heard that three were in process of formation.

"One's the Empire of Greater Sinab," snorted the mayor, "and we've just heard how it grows!"

"Surprise attacks, no doubt," said Kim, "through matter-transmitters."

"We'd not worry if that were all!" snapped the mayor. "It's vastly worse! You know the old fighting-beams?"

"I know them!" said Kim grimly.

CHAPTER II

The Deadly Beams

HE DID. They were the most terrible weapons ever created by men. They had ended war by making all battles mass suicide for both sides. They were beams of the same neuronic frequencies utilized in the disciplinary circuits which kept men enslaved.

But where the disciplinary circuits were used in place of police and prisons and merely tortured the individual citizen to whom they were tuned—wherever he might be upon a planet—the fighting-beams killed indiscriminately. They induced monstrous, murderous currents in any living tissue containing the amino-chains normally a part of human flesh.

They were death-rays. They killed men and women and children alike in instants of shrieking agony. But no planet could be attacked from space if it was defended by such beams. It was two thousand years since the last attempt at attack from space had been made.

That fleet had been detected far out and swept with fighting-beams and every living thing in the attacking ships died instantly. So planets were independent of each other. But when space-ships ceased to be used the fighting-beams were needless and ultimately were scrapped or put into museums.

"Somebody," the mayor said wrathfully," has changed those beams! They're not tuned to animal tissue in general any more! They're tuned to male tissue. To blood containing male hormones, perhaps! And Sinab Two is building an empire with 'em! We found out only two weeks ago!

"There's a planet near Ades—Thom Four. Four years ago its matter-transmitter ceased to operate. The Galaxy's going to pot anyhow. Nothing new about that! But we just learned the real reason. The real reason was that four years ago fighting-beams swept Thom Four from pole to pole. The beams killed men and left women unharmed.

"Every man on Thom Four died as the planet rotated. The beams came from space. Every man and every boy and every male baby died! There were only girls and women left." He added curtly, "There were half a billion people on Thom Four!"

Kim stiffened. Dona, beside him, drew closer.

"Every man killed!" said Kim. "What—"

The Mayor Steadheim swore angrily.

"Half the population! On Ades we're nine-tenths men! Women don't run to revolt or crime. There'd not be much left on Ades if those beams swept us! But I'm talking about Thom Four. The men died. All of them. So many that the women couldn't bury them all.

"One instant, the planet was going about its business as usual. The next, every man was dead, his heart burst and blood running from his nostrils. Lying in the streets, toppled in the baths and eating-halls, crumpled beside the machines.

"Boys in the schools dropped at their desks. Babes in arms, with their mothers shrieking at the sight! Only women left. A world of women! Cities and continents filled with dead men and women going mad with grief!"

KIM felt Dona's hand fumbling for his. She held it fast.

"Go on!" said Kim.

"When they thought to go to the matter-transmitter and ask for help from other planets the matter-transmitter was smashed. They didn't go at first. They couldn't believe it. They called from city to city before they realized theirs was a manless world. Then, when they'd have told the men of another planet what had happened—they couldn't.

"For four years there was not one man or boy on the planet Thom Four. Only women. The old ones grew older. The girls grew up. Some couldn't remember ever seeing a man. No communication with other worlds. Then, one day, there was a new matter-transmitter in the place of the smashed one. Men came out of it. The women crowded about them.

"The men were very friendly. They were from Sinab Two. Their emperor had sent them to colonize. There were a thousand women to every man—ten thousand! Some of the women realized what had been done. They'd have killed the newcomers. But some women fell in love with them, of course!

"In a matter of days every man had women ready to fight all other women who would harm him. Their own men were dead four years. What else could they do? More and more men colonists came. Presently things settled down. The men were happy enough. They'd no need to work with all the women about.

"They established polygamy, naturally! Presently it was understood that Thom Four was part of the empire of Greater Sinab. So it was. What else? In a generation there'll be a new population, all its citizens descended from loyal subjects of the emperor.

"And why shouldn't they be loyal? A million colonists inherited the possessions and the women of a planet! It was developed. Everything was built. Every man was rich and with a harem. A darned clever way to build an empire! Who'd want to revolt—and who could?"

He stopped. The two moons of Terranova floated tranquilly, higher in the sky. The soft sweet unfamiliar smells of a Terranovan night came to the small group on the terrace of Kim Rendell's house.

"That's what's ahead of Ades!" raged the Mayor of Steadheim. "And I've four sons! A woman of Thom Four smashed the lock on the new matter-transmitter, which set it to send only to Sinab, and traveled to Khiv Five to warn them. But they laughed at her and when she begged to be sent to a distant planet they grinned—and sent her to Ades!"

He paused.

"Not long after, a criminal from Khiv Five—he'd struck a minor noble for spitting on him—came to Ades. There'd been inquiry for that woman. Spies, doubtless, from Thom Four, trying to trace her. It was clear enough she'd told the truth."

"So," said Kim slowly, "you think Ades will be next."

"I know it!" said the Mayor of Steadheim. "We've checked the planets that have cut communication in our star-cluster. Twenty once inhabited planets have ceased to communicate in the past few years—the twenty planets nearest to Sinab. We figured Khiv Five would be next. Then we'd be in line for it.

"Khiv Five cut communications four days ago! Every man on Khiv Five is dead! We've had exiles from a dozen nearby planets. All know Khiv Five is cut off. It's inhabitated only by women, going mad with grief!

"In a few years, when they grieve no longer, but despair instead, new colonists from Sinab will come out of a new matter-transmitter to let the women fall in love with them—and to breed new subjects for the Empire of Sinab! So we've got to have space-ships, man! We've got to!"

Kim was silent. His face was hard and grim.

"Twenty planets those so-and-so's have taken over!" roared the mayor. "They've murdered not less than four billion men already, and the weasels have a hundred wives apiece and the riches of generations for reward! D'you think I'll let that happen to Ades, with my four sons there? *Space*, no! I want ships to fight with!"

The two small moons rose higher. Strange sweet smells floated in the air. Dona pressed close to Kim. On Terranova, across the gulf

between island universes, Kim was surely safe, but any woman can feel fear for her man on any excuse.

"It's a hard problem," said Kim evenly. "We barely made Terranova with the *Starshine,* and there's just about enough fuel left to take off with. Of course, on transmitter-drive she could go anywhere, but I doubt that we've fuel enough to land her.

"Here on Terranova we need supplies from Ades to live. If fighting-beams play on Ades we'll starve. And, even if we had fuel the *Starshine* isn't armed and they'll have a fleet prepared to fight anything."

Dona murmured in his ear.

"We're beaten, then," said the Colony Organizer bitterly. "Ades will be wiped out, we'll starve and the Sinabians will go through the First Galaxy, killing off the men on planet after planet and then moving in to take over."

Dona murmured again in Kim's ear. The Mayor of Steadheim growled profanely, furiously. Dona laughed softly. The two visitors stared at her suspiciously.

"What do we do, Kim Rendell?"

"I suppose," said Kim wryly, "we'll have to fight. We've no fuel and no weapons—but that ought to surprise them."

"Eh?"

"They'll be prepared," Kim explained, "to defend themselves against any conceivable resistance by any conceivable weapon. And a warship a fairly intelligent planet could build should be able to wipe out ten thousand *Starshines.* So when we attack them without any weapons at all they won't quite know what to do."

The two visitors simply stared at him.

"You've got to get hafnium! You've got to get fuel! You can't face a battleship!"

"But," said Kim, "battleships have fuel on board and they'll have hafnium too. It'll be risky—but convenient. . . ."

CHAPTER III

Contact!

ACTUALLY there was less than a quart of fuel in the *Starshine's* tanks. Kim knew it ruefully well. It would run the

As the little space torpedoes drew closer, the power of the repeller-beams rose to incredible heights

little ship at interplanetary speed for perhaps six hours. On normal over-drive—two hundred light-speeds—it would send her just about one-seventh of a light-year, and star-systems averaged eight light-years apart in both the First and Second Galaxies.

Of course, on transmitter-drive—the practically infinite speed the *Starshine* alone in history had attained—the ship might circumnavigate the cosmos on a quart of fuel. But merely rising from Terranova would consume one-third of it, and landing on any other planet would take another third.

Actually the little ship was in the position of being able to go almost anywhere, but of having no hope at all of being able to come back.

It rose from Terranova though, just three days after the emergency was made clear. There were a few small gadgets on board—hastily made in the intervening seventy-two hours—but nothing deadly—nothing that could really be termed a weapon.

The *Starshine* climbed beyond the atmosphere of the Second Galaxy planet. It went on overdrive—at two hundred light-speeds—to a safe distance from Terranova's planetary system. Then it stopped in normal space, not stressed to allow for extra speed.

Kim jockeyed it with infinite care until it was aimed straight at the tiny wisp of nebulous light which was the First Galaxy, unthinkable thousands of light-years away. At long last he was satisfied. He pressed the transmitter-field button—and all space seemed to reel about the ship.

At the moment the transmitter-field went on, the *Starshine* had a velocity of twenty miles per second and a mass of perhaps two hundred tons. The kinetic energy it possessed was fixed by those two facts.

But, when the transmitter-field enveloped it, its mass dropped—divided by a factor approaching infinity. And its speed necessarily increased in exact proportion because its kinetic energy was undiminished. It was enclosed in a stressed space in which an infinite speed was possible. It approached that infinite speed on its original course.

Instantly, it seemed, alarm-gongs rang and the cosmos reeled again. Suddenly there was a glaring light pouring in the forward vision-ports. There were uncountable millions of stars all about and, almost straight ahead, a monstrous, palpitating Cepheid sun swam angrily in emptiness.

The *Starshine* had leaped the gulf between galaxies in a time to be measured in heart-beats and the transmitter-field was thrown off when the total quantity of radiation impinging upon a sensitive plate before her had reached a certain total.

DONA watched absorbedly as Kim made his observations and approximately fixed his position. The Mayor of Steadheim looked on suspiciously.

"What's this?"

"Locating ourselves," Kim explained. "From the Second Galaxy the best we could hope for was to hit somewhere in the First. We did pretty well, at that. We're about sixty light-centuries from Ades."

"That's good, eh?" The mayor mopped his face. "Will we have fuel to get there?"

Kim jockeyed the *Starshine* to a new line. He adjusted the radiation-operated switch to a new value, to throw off the field more quickly than before. He pressed the field-button again. Space reeled once more and the gongs rang and they were deep within the galaxy. A lurid purple sun blazed balefully far to the left.

Kim began another jockeying for line.

"Khiv Five was beamed about a week ago," he said reflectively. "We're headed for there now. I think there'll be a warship hanging around, if only to drop into the stratosphere at night and pick up the broadcasts or to drop off a spy or two. Dona, you've got your wristlet on?"

Dona, unsmiling, held up her hand. A curious bracelet clung tightly to the flesh. She looked at his forearm, too. He wore a duplicate. The Mayor of Steadheim rumbled puzzledly.

"These will keep the fighting-beams from killing us," Kim told him wryly. "And you too. But they'll hurt like the dickens. When they hit, though, these wristlets trip a relay that throws us into transmitter-drive and we get away from there in the thousandth of a second. The beams simply won't have time to kill us. But they'll hurt!"

He made other adjustments—to a newly-installed switch on the instrument-board.

"Now—we see if we get back to Terranova."

He pressed the transmitter-drive button a third time. Stars swirled insanely, with all their colors changing. Then they were still. And there was the ringed sun Khiv with its family of planets about it.

Khiv Five was readily recognizable by the broad, straight bands of irrigated vegetation across its otherwise desert middle, where the water of the melted icecaps was pumped to its winter hemisphere. It was on the far side of its orbit from the stopping-place of the *Starshine,* though, and Kim went on overdrive to reach it. This used as much fuel as all the journey from the Second Galaxy.

The three speed-ranges of the *Starshine* were—if Kim had but known it—quaintly like the three speeds of ancient internal-combustion land-cars. Interplanetary drive was a low speed, necessary for taking off and landing, but terribly wasteful of fuel.

Overdrive had been the triumph of space-navigation for thousands of years. It was like the second gear of the ancient land-cars. And the transmitter-drive of Kim's devising was high speed, almost infinite speed—but it could not be used within a solar system. It was too fast.

KIM drove to the farther orbit of Khiv Five and then went into a long, slow, free fall toward the banded planet below. In the old days it would have been changed to a landing-parabola at an appropriate moment.

"Now," said Kim grimly, "my guess is that we haven't enough fuel to make anything but a crash-landing. Which would mean that we should all get killed. So we will hope very earnestly that a warship is still hanging about Khiv Five, and that it comes and tries to wipe us out."

Dona pointed to a tiny dial. Its needle quivered ever so slightly from its point of rest.

"Mmmmm," said Kim. "Right at the limit of the detector's range. Something using power. We should know how a worm on a fish-hook feels, right now. We're bait."

He waited—and waited—and waited.

The small hundred-foot hull of the space-ship seemed motionless, seen from without. The stars were infinitely far away. The great ringed sun was a hundred and twenty million miles distant. Even the belted planet Khiv Five was a good half-million miles below.

Such motion as the *Starshine* possessed was imperceptible. It floated with a vast leisureliness in what would be a parabolic semi-orbit. But it would take days to make sure. And meanwhile. . . .

Meanwhile the *Starshine* seemed to spawn. A small object appeared astern. Suddenly it writhed convulsively. Light glinted upon it. It whirled dizzily, then more dizzily still, and abruptly it was a shape. It was, in fact, the shape of a space-ship practically the size of the *Starshine* itself, but somehow it was not quite substantial. For minutes it shimmered and quivered.

"You'll find it instructive," said Kim drily to the Mayor of Steadheim, "to look out of a stern port."

The Mayor lumbered toward a stern-port. A moment later they heard him shout. Minutes later, he lumbered back.

"What's that?" he said angrily. "I thought it was another ship! When I first saw it, I thought it was ramming us!"

"It's a gadget," said Kim abstractedly. His eyes were on the indicator of one of the detectors. The needle was definitely away from its point of rest. "There's something moving toward us. My guess is that it's a warship with fighting beams—and hafnium and fuel."

CHAPTER IV

Encounter in the Void

THE Mayor of Steadheim looked from one to the other of them. Dona was pale. She looked full of dread. Kim's lips were twisted wryly, but his eyes were intent on the dial. The mayor opened his mouth, and closed it, then spoke wrathfully.

"I don't understand all this! Where'd that other ship come from?"

"It isn't a ship," said Kim, watching the dial that told of the approach of something that could only be an enemy—and it had been a matter of faith that only the *Starshine* roamed the spaceways. "I got it made back on Terranova.

"We took a big reel of metal spring-wire, and wound it round and round a shape like that of the *Starshine.* When it was in place we annealed and tempered it so it would always resume that shape. And then we wound it back on its reel. I just dumped it out in space from a special lock astern.

"It began to unroll, and of course to go back to the form it had been tempered in. Here, with no gravity to distort it, it went perfectly back into shape. Close-to, of

course, you can see it's only a shell and a thin one. But a few miles away it would fool you."

The needle on the detector-dial crept over and over. Kim wet his lips. Dona's face was white.

Then Kim winced and the Mayor of Steadheim roared furiously and the universe without the view-ports swayed and dissolved into something else. Alarm-gongs rang and the *Starshine* was in a brand-new place, with a blue-white giant sun and a dwarf companion visible nearby. The ringed sun Khiv had vanished.

"K-kim!" said Dona, choking.

"I'm quite all right," he told her. But he wiped sweat off his face. "Those beams aren't pleasant, no matter how short the feeling is."

He turned back to the controls. The faint whine of the gyros began. The *Starshine* began to turn about. Kim applied power. But it took a long time for the ship's nose to be turned exactly and precisely back in the direction from which it had come.

"It's getting ticklish," he said abruptly. "There's less than a cupful of fuel left."

"*Space!*" said the Mayor of Steadheim. He looked sick and weak and frightened. "What happened?"

"We were in a sort of orbit about Khiv Five," said Kim, succinctly. "We had a decoy ship out behind us. A warship spotted our arrival. It sneaked up on us and let go a blast of its beams—the same beams that killed all the men on Khiv Five.

"They didn't bother Dona—she's a girl—but they would have killed us had not a relay flung the *Starshine* away from there. The beams got left behind. So did the dummy ship. I think they'll clamp on to it to look it over. And if our engines keep turning over long enough, we'll be all right Now, let's see!"

HIS jaw was set as the transmitter-drive came on and the familiar crazy gyration of all the stars again took place and the gongs rang once more. But his astrogation was perfect. There was the ringed sun Khiv again with its banded fifth planet and its polar ice-cap and its equatorial belt of desert with the wide bands of irrigated land crossing it. Kim drove for the planet. He looked at the fuel-gauge.

"Our tanks," he said evenly, "read empty. What fuel's left is in the catalyzer."

A needle stirred on the bank of indicators. Dona caught her breath. Kim sweated. The indication on the dial grew stronger. The electron-telescope field sparkled suddenly, where light glinted on glistening metal. Kim corrected course subtly.

There was the tiny form which looked so amazingly like a duplicate of the *Starshine*. It was actually a thin layer of innumerable turns of spring-wire. On any planet it would have collapsed of its own weight. Here in space it looked remarkably convincing.

But the three in the *Starshine* did not look at it. They looked at the shape that had come alongside it and made fast with magnetic grapples that distorted the thin decoy wildly—the shape that gave no sign of any activity or any motion or any life.

That shape was a monster space-ship a thousand feet long. It looked as if it bulged with apparatus of death. It was ominous. It was gigantic. It was deadly.

"Our trick worked," said Kim uneasily. "We should begin to feel uncomfortable, you and I, in minutes—if only our engines keep running!"

He spoke to the Mayor of Steadheim. Almost as he spoke, a tiny tingling began all over his body. As the ship went on, that tingling grew noticeably stronger.

"What—"

"We've no weapons," said Kim, "nor time to devise them. But when we were slaves on the planets we came from we were held enslaved by a circuit that could torture us or paralyze us at the will of our rulers. The disciplinary circuit. Remember?

"I put a disciplinary-circuit generator in that little decoy ship. I took a suggestion from what our friends yonder did to the fighting beams. I tuned the disciplinary circuit to affect any man—but no woman—within its range.

"The generator went on when she grappled the decoy. Every man in it should be helpless. If it stands like that, we'd be paralyzed too if we went near. But not Dona."

The tingling was quite strong. It was painful. Presently it would be excruciating. It would be completely impossible for any man within fifty miles of the decoy space-ship to move a muscle.

"However," said Kim, "I've arranged that. I'd disciplinary-circuit projectors fitted on the *Starshine*. We turn them on that ship. Automatically, the generator on the decoy will cut off. Our friends will still be helpless,

and we can go up and grapple—if our engines keep going!"

He threw a switch. A relay snapped over somewhere and a faint humming noise began. The tingling of Kim's body ceased. The decoy and the enemy space-ship grew large before them. The enemy was still motionless.

Its crew, formerly held immobile by the circuit in the decoy, was now held helpless by the beams from the *Starshine*. But neither Kim nor the Mayor of Steadheim could enter the enemy ship without becoming paralyzed too.

Dona slipped quietly from the control-room. She came back, clad in a space-suit with the helmet face-plate open.

"All ready, Kim," she said quietly.

SWEAT stood out in droplets on Kim's face. The *Starshine* drifted ever so gently into position alongside the pair of motionless shapes—the one so solid and huge, the other so flimsy and insubstantial. Kim energized the grapples. There was a crushing impact as the *Starshine* anchored itself to the enemy.

Kim reached over and pulled out a switch.

"That's the wristlet relay switch," he told Dona. "We stay here until you come back—even if a fighting-beam hits us. You've got to go on board that monster and get some fuel and, if you can, a hafnium catalyzer. If another battleship's around and comes up—you drive the *Starshine* home with what fuel you can get. We'll be dead, but you do that. You hear?"

"I'll—hurry, Kim," Dona said.

"Be careful!" commanded Kim fiercely. "There shouldn't be a man on that ship who can move, but be careful!"

She kissed him quickly and closed the face-plate of her helmet. She went into the airlock and closed the inner door.

There was silence in the *Starshine*. Kim sweated. The outer airlock door opened. The two ships were actually touching. The clumping of the magnetic shoes of Dona's space-suit upon the other ship's hull was transmitted to the *Starshine*.

Kim and the Mayor of Steadheim heard the clankings as she opened the other ship's outer airlock door—the inner door. Then they heard nothing.

Dona was in an enemy space-ship, unarmed. Subjects of the Empire of Greater Sinab manned it. They or their fellows had murdered half the population of the banded planet below. They were helpless, now, to be sure, held immobile by fields maintained by the precariously turning engines of the *Starshine*.

But the fuel-gauge showed the fuel-tanks absolutely dry. The *Starshine* was running on fuel in the pipe-line and catalyzers. It had been for an indefinite time. Its engines would cut off at any instant.

When the lights flickered Kim groaned. This meant that the last few molecules of fuel were going from the catalyzer. He feverishly cut off the heaters which kept the ship warm in space. He cut off the air-purifier.

He became desperately economical of every watt of energy. He used power for the disciplinary-circuit beams which kept the enemy crew helpless and for the grapples which kept the two ships in contact—for nothing else.

BUT still the lights flickered. The engines gasped for power. They started and checked and ran again, and again checked.

[*Turn page*]

Many Never Suspect Cause of Backaches

This Old Treatment Often Brings Happy Relief

Many sufferers relieve nagging backache quickly, once they discover that the real cause of their trouble may be tired kidneys.

The kidneys are Nature's chief way of taking the excess acids and waste out of the blood. They help most people pass about 3 pints a day.

When disorder of kidney function permits poisonous matter to remain in your blood, it may cause nagging backache, rheumatic pains, leg pains, loss of pep and energy, getting up nights, swelling, puffiness under the eyes, headaches and dizziness. Frequent or scanty passages with smarting and burning sometimes shows there is something wrong with your kidneys or bladder.

Don't wait! Ask your druggist for Doan's Pills, a stimulant diuretic, used successfully by millions for over 50 years. Doan's give happy relief and will help the 15 miles of kidney tubes flush out poisonous waste from your blood. Get Doan's Pills. *(Adv.)*

The second they failed finally, the immobile monster alongside would become a ravening engine of destruction. The two men in the *Starshine* would die in an instant of unspeakable torment. Dona—now fumbling desperately through unfamiliar passageways amid contorted, glaring figures—would be at the tender mercy of the crew.

And when the three of them were dead the drive of the *Starshine* would be at the disposal of the Empire of Greater Sinab if they only chose to look at it. The beastly scheme of conquest would spread and spread and spread throughout the galaxy and enslave all women—and murder all human men not parties to the criminality.

The lights flickered again. They almost died and on the *Starshine,* Kim clenched his hands in absolute despair. On the enemy warship the frozen, immobile figures of the crew made agonized raging movements.

But the engine caught fugitively once more, and Dona worked desperately and then fled toward the airlock with her booty while the disciplinary circuit field which froze the Sinabian crew wavered, and tightened, and wavered once more.

And died!

Dona dragged open the enemy's inner airlock door as a howl rose behind her. She flung open the outer as murderous projectors warmed. She clattered along the outer hull of the Sinabian ship on her magnetic shoes, and saw the *Starshine* drifting helplessly away, even the grapples powerless to hold the two bodies together.

At that sight, Dona gasped. She leaped desperately, with star-filled nothingness above and below and on every hand. She caught the *Starshine's* airlock door.

And Kim cut out the disciplinary-circuit beams and the flow of current to the grapples and, with a complete absence of hope, pressed the transmitter-drive button. He had no shred of belief that it would work.

But it did. The equalizer-batteries from the engines gave out one last surge of feeble power—and were dead. But that was enough, since nothing else drew current at all. The stars reeled.

This was a test.

Almost anything could happen. Kim held his breath, anxiously watching and waiting for the worst, his senses attuned to the delicate mechanisms about him.

And then, slowly, the reaction was fully determined, and he smiled.

CHAPTER V

The Needed Fuel

THE *Starshine* had a mass of about two hundred tons and an intrinsic velocity of so many miles per second. When the field went on, her mast dropped almost to zero, but her kinetic energy remained the same. Her velocity went up almost to infinity. And the universe went mad.

The vision-ports showed stark lunacy. There were stars, but they were the stars of a madman's dream. They formed and dissolved into nothingness in instants too brief for estimate. For fractions of microseconds they careered upon impossible trajectories across the vision-ports' field of view.

Now a monstrous blue-white sun glared in terribly, seemingly almost touching the ship. An instant later there was utter blackness all about. Then colossal flaring globes ringed in the *Starshine,* and shriveling heat poured in.

Then there was a blue watery-seeming cosmos all around like the vision of an underwater world and dim shapes seemed to swim in it, and then stars again, and then. . . .

It was stark, gibbering madness!

But Kim reached the instrument-board. With the end of the last morsel of power he had ceased to have weight and had floated clear of the floor and everything else.

By the crazy, changing light he sighted himself and, when he touched a sidewall, flung himself toward the now-dark bank of instruments. He caught hold, fumbled desperately and threw the switch a radiation-relay should have thrown. And then the madness ended.

There was stillness. There was nothing anywhere. There was no weight within the ship, nor light, nor any sound save the heavy breathing of Kim and the Mayor of Steadheim. The vision-ports showed nothing.

Looking carefully, with eyes losing the dazzle of now-vanished suns, one could see infinitely faint, infinitely distant luminosities. The *Starshine* was somewhere between galaxies, somewhere in an unspeakable gulf between islands of space, in the dark voids which are the abomination of desolation.

There were small clankings aft. The outer airlock door went shut. A little later the

inner door opened. And then Kim swam fiercely through weightlessness and clung to Dona, still in her space-suit, unable to speak for his emotion.

The voice of the Mayor of Steadheim arose in the darkness which was the interior of the *Starshine*—and the outer cosmos for tens of thousands of light years all about.

"What's this," he rumbled wrathfully as he floated without weight in darkness. "Is this what happens when a man dies? It'll be frightfully tedious."

Dona now had the face-plate of her helmet open. She kissed Kim hungrily.

"I—brought you something," she said unsteadily. "I'm not sure what, but—something. They've separate engines to power their generators on that ship, and there were tanks I thought were fuel-tanks."

"Space!" roared the Mayor of Steadheim, forward. "Who's that talking? Am I dead? Is this hades?"

"You're not dead yet," Kim called to him. "I'll tell you in a minute if you will be."

There were no emergency-lights in the ship, but Dona's suit was necessarily so equipped. She turned on lights and Kim looked at the two objects she had brought.

"My dear," he told her, "you did it! A little fuel-tank with gallons in it and a complete catalyzer. By the size of it, one of their beams uses an engine big enough for fifty ships like this!"

CLUTCHING at every projection, he made his way to the engine-room. Dona followed.

"I'm glad, Kim," she said unsteadily, "that I was able to do something important. You always do everything."

"The heck I do," he said. "But anyhow. . . ."

He worked on the tank. She'd sheared it off with a tiny atomic torch and the severed fuel-line had closed of itself, of course. He spliced it into the *Starshine's* fuel-line, and waited eagerly for the heavy, viscid fluid to reach the catalyzer and then the engines.

"We'll—be all right now?" asked Dona hopefully.

"We were on transmitter-drive for five minutes, at a guess. You know what that means!"

She caught her breath.

"*Kim!* We're lost!"

"To say that we're lost is a masterpiece of understatement," he said wryly. "At transmitter-speed we could cross the First Galaxy in a ten-thousandth of a second. Which means roughly a hundred thousand light years in a ten-thousandth of a second. And we traveled for three hundred seconds or thereabouts. What are our chances of finding our way back?"

"Oh, Kim!" she cried softly. "It's unthinkable!"

He watched the meters. Suddenly, the engines caught. For the fraction of a second they ran irregularly. Then all was normal. There was light. There was weight. An indignant roar came from forward.

"If this is hades—"

They went to the control-room. The Mayor of Steadheim sat on the floor, staring incredulously about him. As they entered he grinned sheepishly.

"I was floating in the air and couldn't see a thing, and then the lights came on and the floor smacked me! What happened and where are we?"

Kim went to the instrument-board and plugged in the heaters—already the vision-ports had begun to frost—and the air-purifier and the other normal devices of a spaceship.

"What happened is simple enough," said Kim. "The last atom of power on board the ship here threw us into transmitter-field drive. And when that field is established it doesn't take power to maintain it.

"So we started to move! There's a relay that should have stopped us, but there wasn't enough power left to work it. So we traveled for probably five minutes on transmitter-drive."

"We went a long way, eh?" said the mayor, comfortably.

"We did," said Kim grimly. "To Ades from its sun is ninety million miles—eight light-minutes. Minutes, remember! The First Galaxy is a hundred thousand light-years across. Light travels a hundred thousand years, going ninety million miles every eight minutes to cross it.

"The *Starshine* travels a hundred thousand light-years in the ten-thousandth part of a second. In one second—a billion light-years. The most powerful telescope in the Galaxy cannot gather light from so far away. But we went at least three hundred times farther.

"Three hundred billion light-years, plus or minus thirty billions more! We went beyond the farthest that men have ever seen,

and kept on beyond the farthest that men have ever thought of!

"The light from the island universes we can see through the ports has never yet reached the First Galaxy since time began. It hasn't had time! We're not only beyond the limits that men have guessed at, we're beyond their wildest imagining!"

THE Mayor of Steadheim blinked at him. Then he got up and peered out the vision-ports. Dim, remote luminosities were visible, each one a galaxy of a thousand million suns!

"Hah!" grunted the mayor, "Not much to look at, at that! Now what?"

Kim spread out his hands and looked at Dona.

"Turning about and trying to go back," he said, "would be like starting from an individual grain of sand on a desert, and flying a thousand miles, and then trying to fly back to that grain of sand again. That's how the First Galaxy stacks up."

Dona took a deep breath.

"You'll find a way, Kim! And—anyhow—"

She smiled at him shakily. Whether or not they ever saw another human being she was prepared to take what came, with him. The possibility of being lost amid the uncountable island universes of the cosmos had been known to them both from the beginning of the use of the *Starshine*.

"We'll take some pictures," Kim told her, "and then sit down on a planet and figure things out."

He set to work making a map of all the island universes in view of the *Starshine's* current position, with due regard to the *Starshine's* course. On the relatively short jumps within a galaxy, and especially those of a few light-years only, he could simply turn the ship about and come very close to his original position—the line of it, anyhow.

But he did not know within many many billions of light-years how far he had come and he did know that an error of a hundredth of a second of arc would amount to millions of light-years at the distance of the First Galaxy.

The positions of galaxies about the First were plotted only within a radius of something like two million light-years. There had never been a point in even that! At fifteen hundred thousand times that distance he was not likely to strike the tiny mapped area by accident.

He set to work. Presently he was examining the photographs by enlarger for a sign of structure in one of the galaxies in view. One showed evidences of super-giant stars—which proved it the nearest. He aimed the *Starshine* for it. He threw the ship into transmitter-drive.

The galaxy was startlingly familiar when they reached it. The stellar types were normal ones and there were star-clusters and doubtless star-drifts too and Kim was wholly accustomed to astro-navigation now.

He simply chose a sol-type sun, set the radiation-switch to stop the little space-ship close by, aimed for it and pressed a button. Instantly they were there. They visited six solar systems.

They found a habitable planet in the last—a bit on the small side, but with good gravity, adequate atmosphere and polar ice-caps to assure its climate.

They landed and its atmosphere was good. The Mayor of Steadheim stepped out and blinked about him.

"Hah!" he said gruffly. "If we've come as far as you say it was hardly worth the trip!"

KIM grinned.

"It looks normal enough," he acknowledged. "But chemistry's the same everywhere and plants will use chlorophyll in sunlight from a sol-type sun. Stalks and leaves will grow anywhere, and the most efficient animals will be warm-blooded. Given similar conditions you'll have parallel evolution everywhere."

"Hm—" said the Mayor of Steadheim. "A planet like this for each of my four sons to settle on, now—when we've settled with those rats from Sinab—"

The planet was a desirable one. The *Starshine* had come to rest where a mountain-range rose out of lush, strange, forest-covered hills, which reached away and away to a greenish sea. There was nothing in view which was altogether familiar and nothing which was altogether strange. The Mayor of Steadheim stamped away to a rocky outcrop where he would have an even better view.

"Poor man!" said Dona softly. "When he finds out that we can never go back, and there'll be only the three of us here while horrible things happen back—back home."

But Kim's expression had suddenly become strained.

"I think," he said softly, "I see a way to get back. I was thinking that a place as far away as this would be ideal for the Empire of Sinab to be moved to. True, they've murdered all the men on nineteen or twenty planets, but we couldn't repair anything by murdering all of them in return.

"If we moved them out here, though, there'd be no other people for them to prey on. They'd regret their lost opportunities for scoundrelism but their real penalty would be that they'd have to learn to be decent in order to survive. It's a very neat answer to the biggest problem of the war with Sinab —a post-war settlement."

"But we haven't any chance of getting back, have we?"

"If we wanted to send them here, how'd we do it?" asked Kim. "By matter-transmitter, of course. A receiver set up here —as there used to be one on Ades—to which a sender would be tuned.

"When a transmitter's tuned to a receiver you can't miss. But our transmitter-drive is just that—a transmitter which sends the ship and itself, with a part which is tuned to receive itself, too.

"I'll set up the receiving element here, for later use. And I'll tune the sender-element to Ades. We'll arrive at the station there and everyone will be surprised."

He paused and spoke reflectively.

"A curious war, this. We've no weapons and we arrive at a post-war settlement before we start fighting. We've decided how to keep from killing our enemies before we're sure how we'll defeat them and I suspect that the men had better stay at home and let the women go out to battle. I'm not sure I like it."

He set to work. In twelve hours one-half of the transmitter-drive of the *Starshine* had been removed and set up on the unnamed planet of a galaxy not even imagined by human beings before.

In fifteen hours the *Starshine,* rather limpingly, went aloft.

An hour later Kim carefully tuned the transmitting part of the little ship's drive to the matter-receiving station on Ades. In that way, and only in that way, the ship would inevitably arrive at the home galaxy of humanity.

And he pushed a button.

It arrived at the matter station on Ades instead of descending from the skies. And the people on Ades were surprised.

CHAPTER VI

Man-Made Meteor

NO OBVIOUS warlike move had been made on either side, of course. Ades swam through space, a solitary planet circling its own small sun. About it glittered the thousands of millions of stars which were the suns of the First Galaxy.

Nearby, bright and unwinking, Sinab and Khiv and Phanis were the largest suns of the star-cluster which was becoming the Empire of Sinab. Twenty planets—twenty-one, with Khiv Five—were already cut off from the rest of the galaxy, apparently by the failure of their matter-transmitters.

Actually those twenty planets were the cradles of a new and horrible type of civilization. On the other inhabited worlds every conceivable type of tyranny had come into being, sustained by the disciplinary circuit which put every citizen at the mercy of his government throughout every moment of his life.

On most worlds kings and oligarchs reveled in the primitive satisfaction of arbitrary power. There is an instinct still surviving among men which allows power, as such, to become an end in itself, and when it is attained to be exercised without purpose save for its own display. Some men use power to force abject submission or fawning servility or stark terror.

In the Empire of Greater Sinab there was merely the novelty that the rulers craved adulation—and got it. The rulers of Sinab were without doubt served by the most enthusiastic, most loyal, most ardently cooperative subjects ever known among men.

Every member of the male population of Sinab—where women were considered practically a lower species of animal—could look forward confidently to a life of utter ease on one planet or another, served and caressed by solicitous females, with no particular obligation save to admire and revere his rulers and to breed more subjects for them.

It made for loyalty, but not for undue energy. There was no great worry about the progress of the splendid plan for a greater Sinab. All went well. The planet Khiv Five had been beamed from space some nine days since.

Every man upon the planet had died in

one instant of unholy anguish, during which tetanic convulsions of the muscles of his heart burst it while the ligaments and anchorages of other muscles were torn free of his skeleton by the terrific contraction of muscle fibres.

Every woman on Khiv Five was still in a state of frantic grief which would become despair only with the passage of time. It was strange that two guard-ships circling Khiv Five no longer reported to headquarters but it was unthinkable that any harm could have come to them. Records showed that no other planet had practised space travel for centuries or millenia.

Only the Empire of Sinab had revived the ancient art for purposes of conquest. There was no reason to be solicitous, so the Empire of Sinab waited somnolently for time to pass, when colonists would be called up to take over the manless Khiv Five and all its cities and its women.

There was another small planet called Ades, next in order for absorption into the Empire. A squadron had been dispatched to beam it to manlessness—though volunteers for its chilly clime would not be numerous.

The failure of two guard-ships to report, of course, could have no meaning to that other squadron. Of course not! There were no space-ships save the fleet of Greater Sinab. There were no weapons mounted for use against space-craft anywhere.

There was nothing to hinder the expansion of Greater Sinab to include every one of the galaxy's three hundred million inhabited planets. So nobody worried on Sinab.

ON ADES it was different. That small planet hummed with activity. It was not the ordered, regimented-from-above sort of activity any other planet in the galaxy would have shown. It was individual activity, often erratic and doubtless inefficient. But it made for progress.

First, of course, a steady stream of human beings filed into the matter-transmitter which communicated with Terranova in the Second Galaxy. Gangling boys, mostly, and mothers with small boy-children made the journey, taking them to Terranova where the beams of Sinabian murder-craft could not cause their death.

The adults of Terranova were not anxious to flee from Ades. The men with wives—though there were only one-tenth as many women as men on Ades—savagely refused to abandon them. Those without wives labored furiously to complete the space-ships that waited for their finishing touches on the outskirts of every community on the planet.

The small drum of fuel taken by Dona from the warship off Khiv Five was depleted by Kim's use of it, but the rest was enormously useful. The catalyzer from the same warship was taken apart and its previous hafnium parts recovered. And then the values of individualism appeared.

A physicist who had been exiled from Muharram Two for the crime of criticizing a magistrate, presented himself as an expert on autocatalysis. With a sample of the catalyzed fuel to start the process he shortly had a small plant turning out space-fuel without hafnium at all. The catalyzed fuel itself acted as a catalyst to cause other fuel to take the desired molecular form.

A power-plant engineer from Hlond Three seized upon the principle and redesigned the catalyzers to be made for the ships. For safety's sake a particle of hafnium was included but the new-type catalyzers required only a microscopic speck of the precious material.

Hafnium from the one bit of machinery from the one beam-generator of an enemy war-craft, was extended to supply the engine-rooms of a thousand space-craft of the *Starshine's* design.

In a myriad other ways individuals worked at their chosen problems. Hundreds undoubtedly toiled to contrive a shield for the fighting beams—tuned to kill men only—which were the means by which Ades was to be devastated. The scientists of half a galaxy had tried that five thousand years before without success.

But one man did come up with a plausible device. He proposed a shielding paint containing crystals of the hormone to which the fighting-beams were tuned. The crystalline material should absorb the deadly frequencies, so they could not pass on to murder men.

It would have been simple enough to synthesize any desired organic substance, but Kim pointed out grimly that the shield would be made useless by changing the tuning of the beams. Other men devised horrific and generally impractical weapons.

But again, one man came up with a robot ship idea, a ship which could be fought without humans on board and controlled even at interstellar distances. Radio signals at the

speed of light would be fantastically too slow.

He proposed miniature matter-transmitters automatically shuttling a magnetic element between ship and planet-station and back to the ship again, the solid object conveying all the information to be had from the ship's instruments to the planet station, and relaying commands to the ship's controls. The trick could have been made to work, and it would be vastly faster than any radiation-beam. But there was no time to manufacture them.

ACTUALLY, only four days after the return of the partly dismantled *Starshine* from the farther side of nowhere, Kim took off again from Ades with fifty other ships following him. There were twenty other similar squadrons ready to take space in days more.

But for a first operation he insisted on a small force to gain experience without too much risk. At transmitter-speeds there could be no such thing as cruising in fleet formation, nor of arriving at any destination in a unit. Guerilla warfare was inevitable.

The navy of the criminals of Ades, though, went swirling up through the atmosphere of that cold planet like a column of voyaging wild geese. It broke through the upper atmosphere and there were all the suns of the Galaxy shining coldly on every hand.

The ships headed first for Khiv Five, lining up for it with such precision as the separate astrogators—hurriedly trained by Kim—could manage. It was a brave small company of tiny ships, forging through space away from the sunlit little world behind them. The light of the local sun was bright upon their hulls.

Glinting reflections of many-colored stars shimmered on their shadowed sides. They drove on and on, on planetary drive, seemingly motionless in space. Then the *Starshine* winked out of existence. By ones and twos and half-dozens, the others vanished from space.

It was the transmitter-drive, of course. The repaired *Starshine* vanished from space near Ades because it went away from Ades at such speed that no light could possibly be reflected from it. It reappeared in space within the solar system of Khiv because it slowed enough to be visible.

But it seemed utterly alone. Yet presently an alarm-gong rang, and there was one of its sister-ships a bare ten thousand miles away. The rest were scattered over parsecs.

Kim drove for the banded planet on which dead men still lay unburied. His fleet was to rendezvous above its summer pole, as shown by the size of the ice-cap. There had been two guard-ships circling Khiv Five to keep account of the development of grief into despair. Dona had robbed one of them while its crew was held helpless by projectors of the disciplinary circuit field.

A second had been on the way to its aid when the *Starshine* reeled away with the last morsel of energy in its equalizing-batteries. With fifty small ships, swift as gadflies though without a single weapon, Kim hoped to try out the tactics planned for his fleet, and perhaps to capture one or both of the giants.

He picked up a third member of his force on the way to the planet and the three drove on in company. Detectors indicated two others at extreme range. But as the three hovered over the polar cap of Khiv Five, others came from every direction.

Then a wheezing voice bellowed out of the newly-installed space-radio in the *Star-*

[*Turn page*]

"JORDAN GREEN HAS BEEN HERE!"

This is the message inscribed in space-chart chalk on myriad flat surfaces from Mercury to the moons of Neptune—and it has the military men of the future worried and baffled. Captain Alfred Weston, classified as an official convalescent by the Medical Corps, is suddenly given the job of tracking down "Jordan Green" and discovering the secret of the odd inscriptions. It looks like an easy job at first—but Weston soon discovers there's far more to it than meets the eye in QUEST TO CENTAURUS, the astonishing novelet by George O. Smith coming in our next issue! For a yarn that's truly unusual, look forward to this amazing and extraordinary space saga of the future!

shine's control-room. It was the voice of the Mayor of Steadheim, grandly captaining a tiny ship with his four tall sons for crew.

"Kim Rendell!" he bellowed. *"Kim Rendell! Enemy ships in sight! We're closing with them and be da—"*

His voice stopped—utterly.

KIM snapped orders and his squadron came swarming after him. The direction of the message was clear. It had come from a point a bare two thousand miles above the surface of Khiv Five and with coordinates which made its location easy.

It was too close for the use of transmitter-drive, of course. Even over-drive at two hundred light-speeds was out of the question. On normal drive the little ships—bare specks in space—spread out and out. Their battle tactics had been agreed upon. They wove and darted erratically.

They had projectors of the disciplinary circuit field, which would paralyze any man they struck with sufficient intensity. But that was all—for the good and sufficient reason that such fields could be tested upon grimly resolute volunteers and adjusted to the utmost of efficiency.

On the prison world of Ades, to which criminals were sent from all over the galaxy, there was no legal murder. Killing fighting beams could not be calibrated. There were no available victims.

The detectors picked up a single considerable mass. Electron telescopes focussed upon it. Kim's lips tensed. He saw a giant war-craft, squat and ungainly—with no air-resistance in space there is no point in streamlining a space-ship—and with the look of a mass of crammed generators of deadly beams.

It turned slowly in its flight. It was not one space-ship, but two—two giant ships grappled together. It turned further and there was a shimmering, unsubstantial tiny shape clutched to one. . . .

"The dickens!" said Kim bitterly. He called into the space-phones; "Kim Rendell speaking! Don't attack! Those ships aren't driving, they're falling! They'll smash on Khiv Five and we can't do anything about it. Keep at least fifty miles away!"

A wheezing voice said furiously from the communicator,

"They tricked me! I went for 'em, and the transmitter drive went on! I'll get 'em this time!"

Kim barked at the Mayor of Steadheim, even as in the field of the electron telescope he saw a tiny mote of a space-ship charge valorously at the monsters. It plunged toward them—and vanished.

DONA spoke breathlessly.

"But what happened, Kim?"

"This," said Kim bitterly, "is the end of the battle we fought with one of those ships a week ago. We put out a decoy and that ship grappled it. A disciplinary circuit generator went on and paralyzed its crew.

"You remember that we went up to it and you went on board. I turned off its generator from a distance and held the crew paralyzed with beams from the *Starshine*. There was another ship coming when you got off and we got away to the other side of beyond."

"Yes, but—"

"We vanished," said Kim. "The other enemy ship came up. Its skipper must have decided to go on board the first for a conference, or perhaps to inspect the decoy. It grappled to the first—and the magnetic surge turned on the disciplinary field again in the gadget in the decoy!

"Every man in both ships was paralyzed all over again! Both ships were drifting with power off! They've been falling toward Khiv Five! Every man of both crews must be dead by now, but the field's still on and it will stay on! They'll crash!"

"But can't we do anything?" demanded Dona anxiously. "I know you want a ship."

"It would be handy to have those beams modified so we could paralyze a planet from a distance," said Kim grimly, "but these ships are gone."

"I could go on board again," said Dona breathlessly.

"No! They'll hit atmosphere in minutes, now. And even if we could cut off the paralyzing field and get to the control-room nobody could pull an unfamiliar ship out of that fall. I wouldn't let you try it anyhow. They're falling fast. Miles a second. They'll hit with the speed of a meteor!"

"But try, Kim!"

For answer he pulled her away from the electron telescope and pointed through the forward vision-port. The falling ships had seemed almost within reach on the electron-telescope screen. But through the vision-port one could see the whole vast bulk of Khiv Five.

Two thirds of it glowed brightly in sun-

light, but night had fallen directly below. The falling ships were the barest specks the eye could possibly detect—too far for hope of overhauling on planetary drive, too close to risk any other. Any speed that would overtake the derelicts would mean a crash against the planet's disk.

"I think," said Kim, "they'll cross the sunset line and fall in the night area."

They did. They vanished, as specks against the sunlit disk. Then, minutes later, a little red spark appeared where the bulk of the banded planet faded into absolute black. The spark held and grew in brightness.

"They've hit atmosphere," Kim told her. "They're compressing the air before them until it's incandescent. They're a meteoric fall."

The spark flared terribly, minute though it was from this distance. It curved downward as the air slowed its forward speed. It was an infinitesimal comet, trailing a long tail of fire behind it. It swooped downward in a gracefully downward-curving arc. It crashed.

"Which," said Kim coldly in the *Starshine's* control-room, "means that two Sinabian warships are destroyed without cost to us. It's a victory. But it's very, very bad luck for us. With those two ships and transmitter drive we could end the war in one day."

CHAPTER VII

Ready for Action

INDIGNANTLY the Mayor of Steadheim bellowed from the space-phone speaker and Kim answered him patiently.

"The decoy still had a disciplinary-circuit field on," he explained for the tenth time. "You know about it! When you tried to go galumphing in, the field grabbed you and paralyzed you. When your muscles went iron hard, the relay on your wrist—you wear it to protect you from the fighter-beams—threw your ship into transmitter-speed travel.

"So you were somewhere else. When you came back you charged in again and the same thing happened. The relay protected you against our field as well as the enemy fighter-beams. That's all."

The Mayor wheezed and sputtered furiously. It was plain that he had meant to distinguish himself and his four sons by magnificent bravery.

"There's something that needs to be done," said Kim. "Those two ships are smashed but they hadn't time to melt. There'll be hafnium in the wreckage, anyhow—and metal is scarce on Ades. See what you can salvage and get it to Ades. It's important war work. Ask for other ships to volunteer to help you."

The Mayor of Steadheim roared indignantly—and then consented like a lamb. In the space-navy of Ades there could not yet be anything like iron discipline. Kim led his forces as a feudal baron might have led a motley assemblage of knights and men-at-arms in ancient days. He led by virtue of prestige and experience. He could not command.

The fleet grew minute by minute as lost ships came in. And Kim worked out a new plan of battle to meet the fact that he could not hope to appear over Sinab with gigantic generators able to pour out disciplinary-circuit beams over the whole planet.

He explained the plan painstakingly to his followers and presently set a course for Sinab. A surprising number of ships volunteered to go to ground on Khiv Five with the Mayor of Steadheim to salve what could be retrieved of the shattered two warships.

No more than thirty little craft of Ades pointed their noses toward Sinab. They went speeding toward it in a close-knit group, matching courses to almost microscopic accuracy and keeping their speed identical to a hair in hopes of arriving nearly in one group.

"So we'll try it again," said Kim into the space-phone. "Here we go!"

He pressed the transmitter-drive button and all the universe danced a momentary saraband—and far off to the left the giant sun Sinab glowed fiercely.

FIVE of the little ships from Ades were within detector-range. But there were four monstrous moving masses which by their motion and velocity were space-ships rising from the planet and setting out upon some errand of the murder-empire. The same thought must have come instantly to those upon each of the little ships. They charged.

There had been no war in space for five thousand years. The last space-battle was that of Canis Major, when forty thousand warships plunged toward each other with

their fighting-beams stabbing out savagely, aimed and controlled by every device that human ingenuity could contrive.

That battle had ended wars for all time, the galaxy believed, because there was no survivor on either side. In seconds every combatant ship was merely a mass of insensate metal, which fought on in a blind futility.

The fighting-beams killed in thousandths of seconds. The robot gunners aimed with absolute precision. The two fleets joined battle and the robots fixed their targets and every ship became a coffin in which all living things were living no longer, which yet fought on with beams which could do no further harm.

With every man in both fleets dead the warships raged through emptiness, pouring out destruction from their unmanned projectors. It was a hundred years before the last war-craft, its fuel gone and its crew mere dust, was captured and destroyed. But there had been no space-fight since—until now.

And this one was strangeness itself. Four huge, squat ships of war rose steadily from the planet Sinab Two. They were doubtless bound on a mission of massacre. The Empire of Sinab gave no warning of its purpose. It did not permit the option of submission.

Its ships headed heavily out into space, crammed with generators of the murder-frequency. They had no inkling of any ships other than those of their own empire as being in existence anywhere.

Suddenly, out of nowhere, a slim and slender space-craft winked into being—a member of Kim's squadron, just arrived. Within a fraction of an instant it was plunging furiously for the Sinabian monster.

The *Starshine* also flung itself into headlong attack, though it was unarmed save for projectors of a field that would not kill anyone. The other ships—and more, as they appeared—darted valorously for the giants.

Meteor-repellers lashed out automatically. Scanners had detected the newcomers and instantly flung repeller-beams to thrust them aside. They had no effect. Meteor-repellers handle inert masses but, by the nature of its action, an interplanetary drive neutralizes their effect.

The small ships flashed on.

Kim found himself grinning sardonically. There would be alarms ringing frantically in the enemy ships and the officers would be paralyzed with astonishment at the sudden appearance and instant attack by spacecraft which could not—to Sinabian knowledge—exist.

Four ships plunged upon one monster. Three dashed at another. Eight little motes streaked for a third and the fourth seemed surrounded by deadly mites of space-ships, flashing toward it with every indication of vengeful resolution.

The attacks were sudden, unexpected, and impossible. There was no time to put the murder-beams into operation. They took priceless seconds to warm up.

IN STARK panic the control-room officer of the ship at which the *Starshine* drove jammed his ship into overdrive travel. The Sinabian flashed into flight at two hundred times the speed of light. It fled into untraceable retreat, stressed space folded about it.

Kim spoke comfortably into the space-phone:

"Everything's fine! If the others do the same. . . ."

A second giant fled in the same fashion. The small ships of Ades were appearing on every hand and plunging toward their enemies. A third huge ship made a crazy, irresolute half-turn and also took the only possible course by darting away from its home planet on overdrive. Then the fourth!

"They'd no time to give an alarm," said Kim crisply. "Into atmosphere now and we do our stuff!"

The tiny craft plunged toward the planet below them. It swelled in the *Starshine's* forward vision-ports. It filled all the firmament. Kim changed course and aimed for the limb of the planet. The ship went down and down.

A faint trembling went through all the fabric of the ship. It had touched atmosphere. There was a monstrous metropolis ahead and below. Kim touched a control. A little thing went tumbling down and down. He veered out into space again.

He watched by electron telescope. Like tiny insects, the fleet of Ades flashed over the surface of the planet. They seemed to have no purpose. They seemed to accomplish nothing. They darted here and there and fled for open space again, without ever touching more than the outermost reaches of the planet's atmosphere.

But it took time. They were just beginning

to stream up into emptiness again when the first of the giant warships flashed back into view. This time it was ready for action.

Its beam-projectors flared thin streams of ions that were visible even in empty space. The ships of Ades plunged for it in masses. The fighting-beams flared terribly.

And the little ships vanished. Diving for it, plunging for it, raging toward it with every appearance of deadly assault, they flicked into transmitter-drive when the deadly beams touched them. Because the crews of every one were fitted with the wristlets and the relays which flung them into infinite speed when the fighting-beams struck.

In seconds, when the second and third and fourth Sinabian warships came back from the void prepared for battle, they found all of space about their home planet empty. They ragingly reported their encounter to headquarters.

Headquarters did not reply. The big ships went recklessly, alarmedly, down to ground to see what had happened. They feared annihilation had struck Sinab Two.

But it hadn't. The fleet of Ades had bombed the enemy planet, to be sure, but in a quite unprecedented fashion. They had simply dropped small round cases containing apparatus which was very easily made and to which not even the most conscientious of the exiles on Ades could object.

They were tiny broadcasting units, very much like one Kim had put in a decoy-ship, which gave off the neuronic frequencies of the disciplinary circuit, tuned to men. The cases were seamless spheres, made of an alloy that could only be formed by powder metallurgy, and could not be melted or pierced at all.

It was the hardest substance developed in thirty thousand years of civilization. And at least one of those cases had been dropped on every large city of Sinab Two, and when they struck they began to broadcast.

CHAPTER VIII

Pitched Battle

EVERY man in every city of the capital planet of the empire was instantly struck motionless. From the gross and corpulent emporer himself down to the least-considered scoundrel of each city's slums, every man felt his every muscle go terribly and impossibly rigid. Every man was helpless and convulsed. And the women were unaffected.

On Sinab two, which was the capital of a civilization which considered women inferior animals, the women had not been encouraged to be intelligent. For a long time they were merely bewildered. They were afraid to try to do anything to assist their men.

Those with small boy-children doubtless were the first to dare to use their brains. It was unquestionably the mother of a small boy gone terribly motionless who desperately set out in search of help.

She reasoned fearfully that, since her own city was full of agonized statues which were men, perhaps in another city there might be aid. She tremblingly took a land-car and desperately essayed to convoy her son to where something might be done for him.

And she found that, in the open space beyond the city, he recovered from immobility to a mere howling discomfort. As the city was left farther behind he became increasingly less unhappy and at last was perfectly normal.

But it must have been hours before that discovery became fully known, so that mothers took their boy-children beyond the range of the small cases dropped from the skies. And then wives dutifully loaded their helpless husbands upon land-cars or into freight-conveyors and so got them out to where they could rage in unbridled fury.

The emperor and his court were probably last of all to be released from the effects of the disciplinary-circuit broadcasts by mere distance. The Empire was reduced to chaos. For fifty miles about every bomb it was impossible for any man to move a muscle.

For seventy-five it was torment.

No man could go within a hundred miles of any of the small objects dropped from the *Starshine* and her sister-ships without experiencing active discomfort.

Obviously, the cities housed the machinery of government and the matter-transmitters by which the Empire communicated with its subject worlds and the food-synthesizers and the shelters in which men were accustomed to live and the baths and lecture-halls and amusement-centers in which they diverted themselves.

Men were barred from such places absolutely. They could not govern nor read nor have food or drink or bathe or even sleep

upon comfortable soft couches. For the very means of living they were dependent upon the favor of women—because women were free to go anywhere and do anything, while men had to stay in the open fields like cattle.

The foundation of the civilization of Greater Sinab was shattered because women abruptly ceased to be merely inferior animals. The defenses of that one planet were non-existant, and even the four ships just taken off went down recklessly to the seemingly unharmed cities—to land with monstrous crashes and every man in them helpless. The ships were out of action for as long as the broadcast should continue.

BUT THE fleet of Ades rendezvoused at Ades, and again put out into space. They divided now and attacked the subjugated planets. They had no weapons save the devices which every government in the galaxy used.

It was as if they fought a war with the night-sticks of policemen. But the disciplinary circuit which made governments absolute, by the most trivial of modifications became a device by which men were barred from cities, and therefore from government. All government ceased.

Active warfare by the Empire of Sinab became impossible. Space-yards, armories, space-ships grounded and space-ships as they landed from the void—every facility for war or rule in an empire of twenty planets became useless without the killing of a single man and without the least hope of resistance.

Only—a long while since, a squadron of Sinabian warships had headed out for Ades as a part of the program of expansion of the empire. It had lifted from Sinab Two—then the thriving, comfortable capital of the empire—and gone into overdrive on its mission.

The distance to be covered was something like thirty light-years. Overdrive gave a speed two hundred times that of light, which was very high speed indeed, and had sufficed for the conquest of a galaxy, in the days when the human race was rising.

But even thirty light-years at that rate required six weeks of journeying in the stressed space of overdrive. During those six weeks, of course, there could be no communication with home base.

So the squadron bound for Ades had sped on all unknowing and unconscious while Khiv Five was beamed and all its men killed and while the *Starshine* had essayed a return journey from the Second Galaxy and then sped crazily to universes beyond men's imagining and returned, and while the midget fleet of Ades wrecked the empire in whose service the travelers set out to do murder.

The journeying squadron—every ship wrapped in the utter unapproachability of faster-than-light travel—was oblivious to all that had occurred. Its separate ships came out of overdrive some forty million miles from the solitary planet Ades, lonelily circling its remote small sun.

The warships of Sinab had an easier task in keeping together on over-drive than ships of the *Starshine* class on transmitter-drive, but even so they went back to normal space forty million miles from their destination—two second's journey on over-drive—to group and take final counsel.

Kim Rendell in the *Starshine* flashed back from the last of the twenty planets of Sinab as six monster ships emerged from seeming nothingness. The *Starshine's* detectors flicked over to the *"Danger"* signal-strength.

Alarm-gongs clanged violently. The little ship hurtled past a monster at a bare two-hundred miles distance, and there was another giant a thousand miles off, and two others and a fifth and sixth. . . .

THE six ships drew together into battle formation. Their detectors, too, showed the *Starshine*. More, as other midgets flicked into being, returning from their raid upon the Empire, they also registered upon the detector-screens of the battle-fleet.

The fighter-beams of the ships flared into deadliness. They were astounded, no doubt, by the existence of other space-craft than those of Sinab. But as the little ships flung at them furiously, the fighting-beams raged among them.

Small, agile craft vanished utterly as the death-beams hit—thrown into transmitter-drive before their crews could die. But the Sinabians could not know that. They drove on. Grandly. Ruthlessly. This planet alone possessed space-craft and offered resistance.

It had appeared only normal that all the men on Ades should die. Now it became essential. The murder-fleet destroyed—apparently—the tiny things which flung themselves recklessly and went on splendidly to bathe the little planet in death.

The midgets performed prodigies of valor. They flung themselves at the giants, with

the small hard objects that had destroyed an empire held loosely to the outside of their hulls.

When the death-beams struck and they vanished, the small hard objects went hurtling on.

They could have been missiles. They traveled at miles per second. But meteor-repellers flung them contemptuously aside, once they were no longer parts of space-craft with drives in action.

The little ships tried to ram, and that was impossible. They could do nothing but make threatening dashes. And the giants went on toward Ades.

From forty million miles to thirty millions the enemy squadron drove on with its tiny antagonists darting despairingly about it. At thirty millions, Kim commanded his followers to flee ahead to Ades, give warning, and take on board what refugees they could.

But there were nineteen million souls on Ades—at most a million had crowded through to Terranova in the Second Galaxy—and they could do next to nothing.

At twenty millions of miles, some of the midgets were back with cases of chemical explosive. They strewed them in the paths of the juggernaut ships. With no velocity of their own—almost stationary in space—someone had thought they might not activate the Sinabian repellers.

But that thought was futile. The repeller-beams stabbed at them with the force of collisions. The chemical explosives flashed luridly in emptiness and made swift expanding clouds of vapor, of the tenuity of comets' tails. The enemy ships came on.

At ten million miles two unmanned ships, guided by remote control, flashed furiously toward the leading war-craft. They, at least, should be able to ram.

REPELLER-BEAMS which focused upon them were neutralized by the space-torpedoes' drives. They drove in frenziedly. But as they drew closer the power of the repeller-beams rose to incredible heights and overwhelmed the power of the little ships' engines and shorted the field-generating coils and blew out the motors—and the guided missiles were hurled away, broken hulks.

The fleet reached a mere five million miles from the planet Ades. Its separate members had come to realize their invincibility against all the assaults that could be made against them by the defending forces—unexpected as they were—of this small world.

The fleet divided, to take up appropriate stations above the planet and direct their projectors of annihilation downward. They would wipe out every living male upon the planet's surface. They would do it coldly, remorselessly, without emotion.

Presently the planet would become part of an empire which, in fact, had ceased to function. The action of the fleet would not only be horrible—it would be futile. But its personnel could not know that.

The giant ships took position and began to descend.

Odd little blue-white glows appeared in the atmosphere far below. They seemed quite useless, those blue-white glows. The only effect that could at once be ascribed to them was the sudden vanishing of a dozen little ships preparing to make, for the hundreth time, despairing dashes at the monsters. Those little ships winked out of existence—gone into transmitter-drive.

And then the big ships wavered in their flight. Automatic controls seemed to take hold. They checked in their descent, and presently were motionless. . . .

A roar of triumph came to Kim Rendell's ears from the spacephone speaker in the *Starshine*'s control-room. The Mayor of Steadheim bellowed in exultation.

"We got, 'em, by Space! We *got* 'em!"

"Something's happened to them," said Kim. "What?"

"I'm sending up a couple of shiploads of woman," rumbled the Mayor of Steadheim zestfully. "Woman from Khiv Five. They'll take over! Remember you had us go to ground to salvage the two ships that crashed there?

"They bounced when they landed. They shook themselves apart and spilled themselves in little pieces instead of smashing to powder. We picked up half a dozen projectors that could be repaired—all neatly tuned to kill men and leave women unharmed.

"We brought 'em back to Ades and mounted 'em—brought 'em here with wives for my four sons and a promise of vengeance for the other women whose men were murdered. We just gave these devils a dose of the medicine they had for us!

"Those ships are coffins, Kim Rendell! Every man in the crews is dead! But no man can go aboard until their beams are cut off! I'll send up the women from Khiv Five to board 'em. They'll attend to things! If any

man's alive they'll slit his throat for him!"

CHAPTER IX

Homecoming

CONSIDERABLE time later, Kim Rendell eased the *Starshine* down through the light of the two Terranovan moons to the matted lawn outside his homestead in the Second Galaxy. A figure started up from the terrace and hurried down to greet him as he opened the exit-port and helped Dona to the ground.

"Who's this?" asked Kim, blinking in the darkness after the lighted interior of the *Starshine*. "Who—"

"It's me, Kim Rendell," said the Colony Organizer for Terranova. He sounded unhappy and full of forebodings. "We've been doing all we can to take care of the crowds who came through the matter-transmitter, but it was a difficult task—a difficult task!

"Now the crowd of new colonists has dropped to a bare trickle. Every one has a different story. I was told, though, that you were coming back in the *Starshine* and could advise me. I need your advice, Kim Rendell! The situation may be terrible!"

Kim led the way to the terrace of his house.

"I wouldn't say it will be terrible," he said cheerfully enough. "It's good to get back home. Dona—"

"I want to look inside," said Dona firmly.

She went within, to satisfy the instinct of every woman who has been away from home to examine all her dwelling jealously on her return. Kim stretched himself out in a chair.

The stars—unnamed, unexplored, and infinitely promising—of all the Second Galaxy twinkled overhead. Terranova's two moons floated serenely across the sky, and the strange soft scents of the night came to his nostrils. Kim sniffed luxuriously.

"Ah, this is good!" he said zestfully.

"But what's happened?" demanded the Colony Organizer anxiously. "In three weeks we had four hundred thousand new arrivals through the transmitter. Most of them were children and boys.

"Then the flood stopped—like that! What are we to do about them? Did you get fuel for your ship? I understand the danger from Sinab is over, but we find it hard to get information from Ades. Everyone there—"

"Everyone there is busy," said Kim comfortably. "You see, we smashed the Empire without killing more than a very few men. On Sinab Two where the empire was started, we chased the men out of the cities and put them at the mercy of the women.

"So many men had emigrated to the planets whose men had been killed off, that there was a big disproportion even on Sinab. And the women were not pleased. They'd been badly treated too. We didn't approve of the men, though.

"We gave them their choice of emigrating to a brand new world, with only such women as chose to go with them or of being wiped out. They chose to emigrate. So half the technical men on Ades have been busy supervising their emigration."

"Not to here?" asked the Colony Organizer in alarm. "We can't feed ourselves, yet!"

"No, not to here," said Kim drily. "They went to a place we scouted accidentally in the *Starshine*. They're not likely to come back. I left a matter-receiver there, and when they've all gone through it—all the men from twenty planets, with what women want to go with them—we'll smash that receiver and they'll be on their own.

"They're quite a long way off. Three hundred billion light-years, more or less. They're not likely to come in contact with our descendents for several million years yet. By that time they'll either be civilized or else."

THE Colony Organizer asked questions in a worried tone. Kim answered them.

"But twenty-one planets with no men on them," said the Organizer worriedly, "Those women will all want to come here!"

Kim grinned.

"Not quite all. There were ten men on Ades for every woman. A lot of them will settle on the twenty planets where the proportion is reversed. A surprising lot will want to move on to the Second Galaxy, though."

"But—"

"We'll be ready for them," said Kim. "We've space-ships enough for exploration now. The Mayor of Steadheim wants a planet for each of his four sons to colonize. They picked up wives on Khiv Five and want to get away from the old chap and indulge in a little domesticity.

"And there'll be plenty of others." He added, "We've some big warcraft to bring over too, in case there's any dangerous ani-

mals or—entities here."

"But—" said the Colony Organizer again.

"We're sending ships through the First Galaxy, too," said Kim, "to do a little missionary work. After all, twenty-one planets without men!

"So the *Starshine's* sister-ships will drop down secretly on one planet after another to start whisperings that a man who's sent to Ades is a pretty lucky man. If he has courage and brains he's better off than living as a human sheep under kings or technarchs who'll clap the disciplinary circuit on him if he thinks for himself.

"There'll be more criminals and rebels than usual from now on. The flow of men who are not quite sheep will increase. With three hundred million planets to draw from and the way whispers pass from world to world, the adventurous spirits will start getting themselves sent to Ades.

"There'll be planets for them to move to and women to marry and a leaven of hardy souls to teach them that being a free man is pretty good fun. We won't make an empire of those twenty-one planets—just a refuge for every man with backbone in all the Galaxy."

The Colony Organizer looked worried.

"But there are Terranova and the Second Galaxy waiting to be explored and colonized. Maybe they'll be satisfied to stay there."

Kim laughed. When he ceased to laugh he chuckled.

"I'm here! I've got a wife. Do you suppose that any woman will want her husband to stay on one of those twenty-one planets for years to come? Where women outnumber men? Where—well—a man with a roving eye sees plenty of women about for his eyes to rove to?"

The Colony Organizer still worried, nevertheless, until Dona came out from the inside of the house. She had assured herself that everything was intact and her mind was at rest. She bought refreshments for Kim and their guest. She settled down close beside Kim.

"I was just saying," said Kim, "that I thought there would still be plenty of people coming from Ades and the twenty-one planets to Terranova and to settle on the new worlds as they're opened up."

"Of course," said Dona. "I wouldn't live there! Any normal woman, when she has a husband, will want to move where he'll be safe!"

And she might have been referring to the holocausts on those planets caused by the death-beams of the dead Sinabian Empire. But even the Colony Organizer did not think so.

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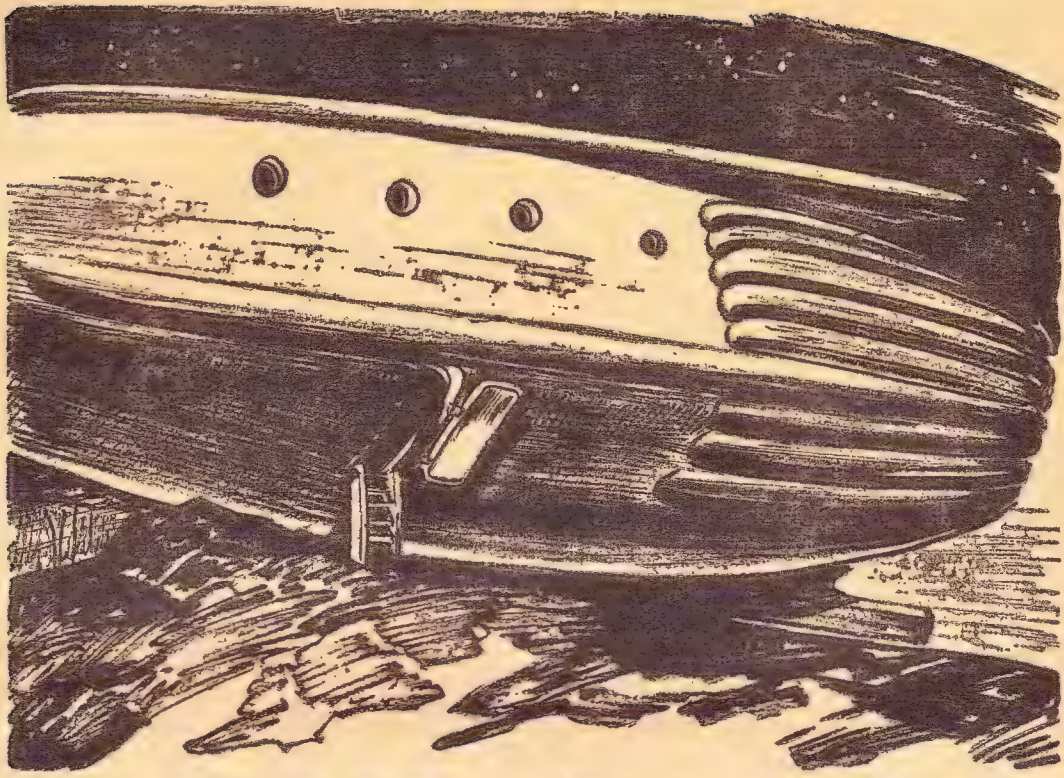
The Zonal waded out of the water and came toward them, staring blankly



TROUBLE ON TITAN

By HENRY KUTTNER

The sub-human denizens of Saturn's largest moon were said to be harmless — but when the ace director of Nine Planets Films was sent to photograph them, he was in for a shock!

CHAPTER I

Von Zorn Is Perturbed

WHENEVER Von Zorn, chief of Nine Planets Films, ran into trouble he automatically started the televisors humming with calls for Anthony Quade. The televisors were humming now. In fact they were shrieking hysterically. Quade's code number bellowed out through a startled and partially deafened Hollywood on the Moon.

Von Zorn, teetering on the edge of his chair behind the great glass-brick desk, was throwing a fit.

"You can't do this to me!" he yelped into the transmitter, his scrubby mustache bristling with outrage. "I know you can hear me, Quade! It's a matter of life and death! *Quade!*"

A covey of anxious secretaries winced involuntarily as he swung the chair around.

"*Get Quade!*" he screamed. "Bring me

Quade! All you do is stand around with your mouths open. I—" He paused, the light of an unpleasant idea dawning across his face. He was grinning disagreeably as he switched the televisor to a private wavelength.

"I'll fix *him!*" he muttered. "I'll—oh, hello." This to the face that flashed onto the screen before him. Rapidly Von Zorn spoke to the face. It nodded, smiling grimly.

Afterward Von Zorn leaned back and called for a drink.

"Nine Planets on the brink of ruin," he growled into the tilted glass, "and Quade runs out on me. I'll fire him! I'll blackball him all over the System! But not till he does this job."

Meanwhile Tony Quade, relaxing comfortably in a seat at the Lunar Bowl, listened to a distant orchestra in the depths of the crater crash into the opening strains of the *Star Symphony*. Under his coat a pocket televisor was buzzing shrill commands.

Quade chuckled and shifted his big-boned body more comfortably in the padded chair. Kathleen Gregg, beside him, smiled in the dimness and he told himself that she was prettier than ever.

It was to her credit that she loathed the title of "The System's Sweetheart" which an enthusiastic publicity department had bestowed upon her. She was one of Nine Planets' brightest stars and Tony Quade was in love with her.

"Hello, stupid," he said lazily. "You look worried. Anything wrong?"

"I suppose you know what you're doing," Kathleen murmured. "Of course, Von Zorn's only been calling you half an hour."

The cries from the pocket televisor had been all too audible, Quade realized. He grinned largely and laid an arm along the back of her chair.

"Let him yell."

"It must be important, Tony."

"I," said Quade, "am resting. Shooting *Star Parade* was hard work. I need a rest. Anyhow, it's much too nice a night to listen to Von Zorn."

"It is nice," the girl agreed. She glanced around them. This was the topmost tier of the Lunar Bowl. At their feet the long rows of seats swept down endlessly to the central platform far below, where an orchestra sat in the changing play of varicolored searchlights.

Behind these uppermost seats stretched Hollywood on the Moon, the strangest city in the Solar System. The wonder of Hollywood on the Moon does not quickly fade, even to eyes that have seen it often. It is a garden metropolis on the far side of Earth's satellite, in a gigantic valley bounded by the Great Rim.

Here the film studios had built their city, washed by an artificially created, germ-free atmosphere, anchored in the crater by electro-magnetic gravity fields maintained in the caverns below. Far distant, the Silver Spacesuit glowed with pale radiance, the broad, white-lit expanse of Lunar Boulevard stretching past it toward the Rim.

From somewhere above a beam of light shot suddenly downward full upon them. Blinded, Quade and Kathleen looked up, seeing nothing at all. Then, without any warning, Quade arose and floated starward.

Kathleen made a quick, involuntary snatch at his vanishing heels, missed, and cried distractedly.

"*Tony!*"

From somewhere above his voice spoke with annoyance.

"They've got a gravity beam on me. I could get loose, but I'd break my neck." The sound trailed off into a distant murmur. "I'll murder Von Zorn for this. . . . "

QUADE felt solid metal beneath his feet. The beam faded. Blinking, he looked around. This was the lower lock of a police ship. Black-clad officers were wheeling away the great anti-gravity lens. A man with a captain's bars took his finger off the button that had closed the lock and looked at Quade speculatively.

"What's the idea?" Quade demanded crossly.

"Sorry, sir. We're looking for a Moonship stowaway. You answer his description."

"My name's Quade. I don't suppose you'd even look at my credentials."

The captain looked blank.

"Might be forged, you know. We can't afford to take chances. If you're Tony Quade, Mr. Von Zorn can identify you."

"He will," Quade said between his teeth. "Yeah—he will!"

Five minutes later they stood in Von Zorn's office. The film executive looked up from a script and nodded coldly.

"Tell him who I am," Quade said in a weary voice. "I've got a date."

"It's not as easy as that. You're either Quade or a Moonship stowaway. If you're Quade I've got to talk to you."

"I've got a date. Also, I quit."

Von Zorn ignored this.

"If you're not Quade it means jail, doesn't it?" He glanced at the captain, who nodded.

Quade thought it over. Of course he could get out of jail without much trouble, but not perhaps for some hours. Besides, he was beginning to wonder what mishap had occurred. It must be pretty serious.

"Okay," he said. "I'm Quade. Now tell your stooge to rocket out of here."

Von Zorn nodded with satisfaction, waved the captain away and pushed toward Quade a box of greenish, aromatic Lunar cigars. Quade pointedly lit one of his own cigarettes and sat down in a glass-and-leather chair.

"Shoot."

But Von Zorn wasn't anxious to begin. He took a cigar, bit the end off savagely, and applied flame. Finally he spoke.

"Udell's dead."

Quade was startled. He put down his cigarette.

"Poor old chap. How did it happen?"

"In the Asteroid Belt. A meteor smashed his ship. He was coming back here from Titan. A patrol ship just towed his boat in."

Quade nodded. He had met Jacques Udell only a few times, but he'd liked the eccentric old fellow, who was somewhat of a genius in his own fashion. A scientist who had turned to film-making, he had once or twice created pictures that had amazed the System—like *Dust*, the saga of the nomad Martian tribes.

"All right." Von Zorn punctuated his sentences with jabs of the cigar. "Get this, Tony. Last month Udell sent me a package and a letter. In the package was a can of film. I ran it off. He'd filmed the Zonals."

"That's been done before—for what it's worth. They're sub-humans, aren't they? Not much story-value there."

"They're the queerest race in the system. Ever see one? Wait till you do—you won't believe it! Udell worked some sort of miracle—he really got a story. The Zonals acted in it for him. Intelligently!"

"That doesn't seem possible."

"It isn't. But Udell did it. He shot one reel and sent it to me with the scenario. It's a good story. It'll be a smash hit. I bought the pic on the strength of the first reel. Paid plenty for it. I've sent out advance blurbs and it's too late to call them all back now."

"Udell didn't finish?"

VON ZORN shook his head.

"He was on his way back here for some reason or other, with two more reels finished, when a meteor cracked him up. The reels are spoiled, of course. Udell didn't have sense enough to insulate 'em."

Von Zorn snapped his cigar in two.

"I own the picture. I paid him for it. But he was the only man who knew how to make the Zonals work for the camera. See the catch, Tony?"

"You want me to finish the pic. A nice easy job. Why not fake the rest of it?"

"I don't dare," Von Zorn admitted frankly. "I've already blurbed this as the real thing. It'd raise too big a howl if we used robots. I can imagine what that Carlyle dame would do."

Quade grinned maliciously.

"Catch-'em-Alive" Carlyle, interplanetary explorer extraordinary, was Von Zorn's vulnerable point, his heel of Achilles.

"She's suing me," Von Zorn said, breathing audibly. "For libel. Says the *Gerri Murri* cartoons are libelous."

"Well, aren't they?" Quade asked. This animated cartoon series, depicting Gerry Carlyle as an inquisitive bug-eyed Venusian *Murri*, had proved immensely popular with everybody but Gerry. She had created a fair-sized riot in Froman's Mercurian Theatre when she first recognized her counterpart on the screen."

"We won't discuss that—that—" Von Zorn gulped and finished weakly, "that tomato. Do you want to see Udell's film on the Zonals?"

"Might as well," Quade agreed, getting up. "I may get some ideas about his method."

"You'd better get some ideas," Von Zorn said darkly, "or we'll all be in the soup."

CHAPTER II

Trip to Titan

THE next morning Quade went to the spaceport to examine Udell's wrecked ship, which had arrived in tow a few hours before. Von Zorn was with him and at the last moment Kathleen, scenting something

interesting, attached herself to Quade's elbow and would not be dislodged.

Quade was not entirely happy about her presence, because of a vague uneasiness he could not name. He had hunches like that occasionally. He felt one strongly now about the wrecked ship and the dangers that might lie dormant there.

"You see, silly, nothing's wrong," Kathleen said impatiently as they stood in the great torn hole that had been the ruined ship's side. The vessel, a small, six-man job, was warped and twisted grotesquely by the impact of the meteor, which had ripped completely through the walls of the control room and emerged into space on the other side. The bodies had been removed, but nothing else was yet touched.

"All the same," Quade told the girl uneasily, "I don't like it. I wish you'd stay outside."

"Ha!" Kathleen said in a sceptical voice and ducked her curly head under the torn wall to peer inside. "Nothing here. Don't be such a sissy, Tony. What could possibly hurt me?"

"How can I tell? All I know is, wherever you go there's trouble. Stand back now and let me take a look."

But he found nothing. Even a careful search of the interior disclosed little to warrant that feeling that something more serious had happened here than a mere chance accident with a meteor. The only thing that puzzled him was the wreckage in the ship.

Bottles, instruments, gauges, seemed smashed more thoroughly than they should be, considering the impact of the meteor. Furniture was splintered, not only in the control room but in every other part of the vessel.

"I don't get this," Quade said slowly. "The meteor didn't cause all this damage. It looks—" He hesitated. "It looks as though Udell and his men had gone on a spree. But there's no sign of liquor on the ship."

"Oxygen jag?" Von Zorn suggested.

Quade examined the tanks.

"No, it doesn't look like it. They didn't even use oxygen to try to save themselves. Look—they could have blocked off the control room with airtight panels and released oxygen. Or they might at least have got into their spacesuits. There must have been time for that. I've got a hunch—"

Von Zorn was examining the cans of film, the casings intact but the film itself spoiled by exposure.

"Eh?" he said. "You have a theory?"

"An idea, that's all. If Udell and the navigator had been in their right minds, they needn't have collided with the meteor. Look here—the automatic repulsors are smashed. That's what caused the trouble."

"In their right minds?" Von Zorn echoed slowly. "Space-*cafard?*"

"Hitting all of 'em? Hardly! Is a post-mortem being done?"

Von Zorn nodded.

"The report ought to be ready by now if you want to check up." He chewed his cigar savagely. "If only one man of the crew had lived! We've got a smash hit dumped on our laps and goodness knows if we can even film it."

Kathleen put her head through a wrenched door-frame. She was a little pale.

"Really, Tony, it's rather horrible. I hadn't realized—I never saw a space wreck before."

"Let's get on the televisor," Quade said decisively. "I'd like to check on the post-mortems."

HE swung out through the half-fused port, and the others followed him into the Patrol office. A few minutes' conversation with the authorities was all that was necessary when Von Zorn used his name. Then a gaunt face above a white jacket dawned on the screen. There were introductions.

"Did you find anything out of the ordinary?" Quade asked.

The reflected head shook negatively.

"Well, not what you'd expect, anyhow. The crash certainly killed them all, if that's what you mean. No question of foul play. But—" He hesitated.

"But what?"

"Antibodies," said the man reluctantly. "Something new. I can't get any trace of a virus. Apparently some disease attacked the men. Their systems built up antibodies that I never encountered before. Something funny about the neural tissues, too. The cellular structure's altered a little."

Von Zorn thrust his head toward the screen.

"But what was it? That's what we want to know. Were they conscious when they died?"

"I think not. My theory is that Udell and his crew were attacked by some disease native to Titan. Maybe the same disease that turned the Zonals into idiots."

"I've got to go to Titan myself," Quade said slowly. "Suppose we work there in spacesuits. Could a virus get through metal or glass?"

"I think you'd be safe. Mind you, that's just my opinion. There's such a thing as a filterable virus, you know. But, judging by the antibodies, I'd say there'd be no risk if you wore spacesuits constantly, outside your ship."

"It won't be easy," Quade said, "but it's better than infection."

"We've taken tests of the wrecked ship," the man in the screen told them. "No trace of any unusual disease-germ or virus. We've tested samples on protoplasmic cultures and got nothing but the ordinary bugs present everywhere. Sorry I can't tell you more."

"That's okay," Quade said. "Thanks." He clicked off the televisor. "All right, then. We film *Sons of Titan* in spacesuits."

Kathleen looked worried.

"I—I don't like it, Tony. Do you have to—"

"Can't leave a flicker like that unfinished," Quade said. "I saw the reel Udell sent in. It's magnificent theater. The tragedy of the Zonals—one of the biggest epics the System ever saw. They used to be highly civilized at one time, historians think, but something wrecked their brains.

"They're decadent now, little better than animals. If I can film the rest of *Sons of Titan,* we'll have something really big—*Grass* and *Chang* and *Dust* all rolled into one. *If* I can figure out how to make the Zonals act.

"They acted for Udell—magnificently. They lived their roles. And that's what's so mysterious, Kathleen. The Zonals aren't really smart enough to come in out of the rain."

"Could it have been faked?" the girl asked.

"No," Von Zorn said decisively. "No question of robots. Udell made ace actors out of—of sub-idiots. The question is how?"

"Same way you did with that new crooner you're starring, maybe," Quade said rather sardonically. He was examining a slip of paper. "I picked this up in Udell's ship—it's a list of supplies he planned to get in Hollywood on the Moon. That's probably why he came back from Titan—he ran out of some things he needed. Let's see. Why did he want neo-curare?"

"What's that?" Von Zorn asked.

"Derivative of curare. A poison that paralyzes the motor nerves. I didn't know the Zonals had nerves."

"Their neural structure's atrophied, Tony. Mm-m. What else is on that list?"

"Cusconidin, Monsel's Salt, sodium sulphoricinate, a baresthesiometer, lenses, filters, camera stuff—nothing special in the medical supplies Udell wanted. You've got to jazz up the pharmacy when you're in space, anyhow. Your katabolism changes, and so on. Variant drugs—"

VON ZORN spoke abruptly.

"There was something about a degenerate race of Zonals that attacked Udell's party, I think. An outlaw tribe. They had a high resistance to wounds; pretty invulnerable. Neo-curare's a fast-working poison, isn't it?

"Well—there's your answer. Special ammunition against that particular tribe in case they attacked again. Udell probably intended to smear neo-curare on his ammunition."

"Could be," Quade said. He hesitated, thumbed a button and called Wolfe, his assistant, on the televisor. The youngster's thin face and sharp blue eyes flashed into visibility on the screen.

"Hello, Tony. What's up?"

"Got the camera-ship ready for the take-off?"

"Sure."

"Well, here are some more supplies I want you to get. Photostat it."

Quade pressed Udell's list face down against the screen. After a moment Wolfe said, "Got it."

Von Zorn seized the paper and began scanning it. Abruptly he emitted the anguished howl of a disemboweled wolf.

"Wait, Tony!" he cried desperately. "Not that! Venusian cochineal at a hundred dollars a pint, current quotation? Use surrogate red. It's almost as good, and we don't need—"

"I want everything—understand?" Quade said to the televisor. "Don't leave out a thing."

Stabbed in the budget, Von Zorn spun toward Kathleen Gregg.

"Next he'll want diamond lenses and radium paint for technicolor effects, I suppose. Thirty-odd concentrated aqueous dyes—and they won't even show on the celluloid!"

"The Zonals spend a lot of time underwater," Quade said patiently. "And underwater camera work under alien conditions is

tricky. You've got to experiment with the right dyes and special filters and lenses before you can get complete submarine clarity."

"You've ordered enough concentrated dye to color the Pacific," Von Zorn mourned. "Lake Erie at least. Why couldn't Udell have found the right dye before he broke his contract?"

"Broke his contract?" Kathleen said wonderingly. "He didn't—"

"He's dead, isn't he?" Von Zorn snarled and went off, as Quade rather suspected, to beat a child star—any child star who wasn't big enough to be dangerous.

Quade got busy preparing for the expedition.

CHAPTER III

Location Site

BEING the sixth satellite of Saturn, Titan is unpleasantly cold. It gets no heat from its major, since Saturn's average temperature is 180° below zero F. But there are occasional volcanic areas, and in one of these, amid geysers and steaming lakes, is the only settlement of humans on Titan, New Macao, a roaring bordertown.

Most of the moon remains unexplored. There are continents and islands and iron-cold seas whose vast depth as well as the tidal pull of Saturn keep unfrozen. Maps on the satellite are mostly blank, with the outlines of the continents sketched in and a few radar-located landmarks indicated. Perhaps two dozen mining companies work some of the volcanic regions.

Equatoria, a continent as large as Africa, stretches from latitudes 45° north to 32° south. Udell had clearly marked on his chart the position of his Titan camp, a valley near the equator on the outskirts of Devil's Range, a broad mountainous belt stretching across the equator for three hundred miles.

So Quade brought down his camera ship, a gleaming, transparent-nosed ovoid, in a five-mile-wide shallow basin clearly of volcanic origin. Steaming geyser plumes feathered up from the rocky floor. Towering cliffs of ice ringed the valley.

In the center a few shacks stood, but there was no sign of life. Though the atmosphere was breathable, Quade, remembering the mysterious virus, issued orders for continual wearing of spacesuits outside the ship. Moreover, he installed antiseptic baths in the spacelocks, in which every member of the crew had to dunk himself before reentering the vessel.

"We're not near New Macao, are we?" Wolfe asked, a wistful gleam in his blue eyes as he peered through the transparent hull.

Quade grinned.

"Nope. We're on the other side of the satellite. Why? Thirsty?"

"Kind of."

"Better stay away from New Macao liquor," Quade said solemnly. "Know what plasmosin is? It's the fibre that holds the cells of your body together. One shot of Martian absinthe, New Macao version, and the plasmosin lets go. You fall apart. Very bad."

"Yeah?" Wolfe said, wide-eyed. "Gee, I'd like to try it."

Quade chuckled and glanced at the instrument panel. "That's funny," he said suddenly.

"Eh?" Wolfe followed the other's gaze. The needle of a gauge was jumping. "Radiation, eh?"

"Radiation. Dunno what type. The Geiger counters are quiet, so it either doesn't register or it's too weak to be dangerous." Quade fiddled with the instruments. "It's coming from the south. We passed over a good-sized crater a while back, didn't we?"

"That's right. It wasn't volcanic, either. Meteoric. Suppose there's a radioactive meteor buried down under it?"

"Possibly. But it doesn't look like ordinary radioactivity. Let's see." Quade tested. "No alpha, beta or gamma types. It's too weak to bother us, but have one of the men check on it. How about going outside? Get your suit."

OUTSIDE the ship Quade and Wolfe sweated in the protective armor, till the refrigo-thermal systems got hold. Then they felt better. These were light-weight outfits, designed for protection against temperature and poisonous atmospheres, not the bulky, reinforced spacesuits used in pressure-work. Saturn was almost at zenith. Quade looked up at the ringed planet, squinting against the wan, yet curiously intense light.

"Have to use special filters," he remarked. Diaphragms in the spherical transparent hel-

mets made it possible to converse. In this atmosphere it wasn't necessary to use radio.

Spongy pumice crackled under their feet. A bellow of crashing ice thundered from the snowy ramparts to the west. It died and there was silence. No movement stirred in the valley. Quade peered from under his palm.

"There's a lake," he said. "The Zonals are amphibious. Let's try it."

If the surface of Titan seemed a bleak desert, the waters of the satellite provided a strange contrast. The lake was an oval nearly a mile long. Its surface seethed and bubbled with glowing light—no wonder Udell had wanted to experiment with dyes! Plant-life made islands on the surface. There was ceaseless activity in the water and, every few moments, a bulky glistening body would appear briefly and vanish again.

Quade hesitated on the edge. There *had* been a tribe of dangerous Zonals, he remembered. In fact, there were several, news from Macao had told him—nomadic groups wandering murderously around from sea to lake to river. But most of the Zonals were peaceful enough.

And in this lake—

"Tony!" Wolfe said sharply. "Look there!"

A head broke the water a few dozen feet away. A round, furry head like a seal's, with staring eyes. The nose was a snout, the mouth broad and loose and lipless. But for all the animalism of the creature, the curve of its head above the eyes, its obvious cranial index, showed that it must possess a brain of some intelligence.

Quade and Wolfe remained motionless. The water broke into a seething rush of bubbles and the Zonal came shoreward. It waded out and stood knee-deep in water, staring blankly.

Its body was thoroughly anthropoid in outline, and curiously graceful in its sleekly furred, streamlined contours. The Zonal was a little more than five feet tall. Its hands and feet were huge and webbed.

The Zonal squirted jets of liquid from its eyes. Then it bent and submerged its head briefly. Wolfe had involuntarily stepped back. Quade spoke softly.

"Take it easy. Its eyeballs are hollow—it's got an opaque diaphragm stretched over 'em, like a kettle-drum. No lens. There's a hole in the center of the diaphragm to admit light, and the hollow's kept filled with water. Acts as a lens. It's got perfect vision, though. And—look at that thing on its back!"

The Zonal, having filled its hollow eyes with water, stood up again, but Quade and Wolfe had already got a glimpse of the creature's flight-sac, a great sausage-shaped object that made it look humpbacked. The sac had a gristly projection at one end that suddenly moved and twisted. The Zonal, tiring of the two men's company, disappeared.

WOLFE was left blinking at the place where it had been. Quade, who knew what to expect, looked up. The creature was shooting through the air like a streamlined spaceship, thirty feet high and going fast. Quade pointed it out to his companion.

"Uh!" Wolfe said. "It's worse than a flea. How does it do that?"

"Same way a squid does," Quade explained, watching the Zonal fall like a stone toward the ground. A dozen feet above a mound of gnarled lava the amphibian seemed to halt in the air, then sank down gently, to stand quietly surveying its surroundings.

"A squid?"

"Or a cuttlefish. Squirts water out of a sac—the old repulsion principle. Only the Zonals are a little more scientific about it. Those sacs on their back look soft, but they're plenty tough.

"They're filled with gas, continually renewed and manufactured by letting in air and water to mix with the chemicals of their bloodstream. When a Zonal wants to move fast he lets off a blast that has the same effect a rocket-jet has on a spaceship."

"They don't have gravity screens, though," Wolfe said.

Quade smiled.

"Well, no. Here's this fellow back again."

The Zonal came flying, bulletlike. Just before he reached the two men a blast of hissing, suddenly-released gas braked it and the creature plumped down easily not a yard away.

"Wonder if Udell taught 'em English?" Quade murmured. He put out his hand gently. "Hello, there. We're friends—understand? We're friends."

The Zonal touched Quade's flexible-metal glove with a tentative, limber finger. Then, gently gripping it in his webbed hand, he eyed it carefully, lifted it to his mouth, and took a hearty bite.

Quade yelped, jerked his hand back and nursed a bruised knuckle. The Zonal, seemingly puzzled, lifted its shoulders in some-

thing suspiciously like a shrug and rocketed back to the lava mound, where it squatted down to think things over. Meanwhile a dozen new heads had popped up from the lake near the shore.

"I thought you said they weren't dangerous," Wolfe observed.

"They're not," Quade gulped, moving his fingers experimentally. "Ouch! That was just—ah—curiosity."

"Well, what now?"

"We'll unload the equipment. Get the cameras set up. The Zonals can wait a bit. I want to think things over."

Quade was hoping he didn't sound as baffled as he felt. He had hoped that Udell might have educated the amphibians somewhat, but apparently the creatures were dumber than apes—a lot dumber. Somehow that didn't jibe with the sizable brain-cases of the Zonals. Their cranial indices seemed to hint that there was intelligence in those sleek furry heads—and Udell had managed to use that savvy. But how?

How, indeed?

CHAPTER IV

Crackup

QUADE had arranged the compact two-man cruiser as a miniature replica of the giant camera ship and carrying identical equipment. It was a complete traveling laboratory, with built-in cameras and searchlights that could stab out from every angle through the transparent nose. During space flights it remained in its cradle within the larger vessel, but now it rested on the lava plain near by, ready for a take-off.

Three days had passed and Quade was still stumped. He couldn't penetrate the wall of stupidity that shielded the Zonals from all advances. Once or twice he thought he was making some headway with the first Zonal they had encountered—whom Wolfe had irreverently dubbed Speedy. But Speedy, though extremely curious, shot off like a rocket whenever Quade felt he was getting somewhere.

In the great camera-ship Quade was donning his protective armor. He had decided to make a survey of the surrounding terrain in the little cruiser, on the chance that Udell's trained Zonals might have wandered away. The icy rampart was no barrier to them, for they rocketed over it like birds.

Wolfe, leaning against a table stacked with experimental apparatus, looked tired.

"Want me to go along, Tony?" he asked.

"You'd better stay here and keep things moving," Quade said.

"What things?"

"Yeah, I know. Everything's ready for shooting. We could roll any time—except for the Zonals. I've got to find some way—"

Quade, struggling into his suit, lurched into a cabinet and deftly caught a small bottle as it fell.

"Neo-curare. Don't want to smash that. I may use it on myself if I have to face Von Zorn without a picture."

"Tony," Wolfe said hastily. "I think I see Kathleen Gregg."

"What!"

Quade whirled awkwardly, peering through the ship's nose. A gyroplane had landed and a slim figure in gleaming space-armor was clambering out. It was, indeed, Kathleen.

"Blast!" Quade said, lurching toward a port. Halfway out he remembered the neo-curare and hastily stuck it in one of the self-sealing pockets in his suit. Pumice ground under his heels. The gyroplane, he saw, was already surging up, angling toward the ice barrier. Kathleen was trotting along briskly, but there was a certain hesitancy in the look she gave Quade.

He halted in front of the girl. She smiled.

"Why, hello, Tony."

"Just what are you doing here?" Quade asked. "Or should I guess?"

"It's sweet of you to say so," Kathleen observed, tilting her nose Saturnward. "As a matter of fact, I got rather tired hanging around—"

"So you thought you'd drop in and say hello," Quade finished for her. "Now you can turn around and say goodbye and go home."

"How?"

Quade peered after the departed gyroplane.

"How'd you get here?"

"Took a tramp ship to New Macao and hired a pilot to fly me the rest of the way."

"Okay," Quade said. "See that two-man camera ship? You're going to march into it and I'm going to fly you back to New Macao and put you on a Sunward ship. Catch?"

"Won't," Kathleen said, starting to run. Quade deftly caught her, lifted her kicking

figure, and carried her to the cruiser. He dumped her in it and turned to Wolfe, who had followed.

"Be back as soon as I can. Keep things moving."

"Right. Hello, Kathleen," Wolfe said pleasantly. "Goodbye now."

HE shut the port and departed. Quade silently turned to the controls and lifted the ship. Kathleen, standing beside him, was not silent. She finished by saying that her engagement to Quade was off, and that he was a rat.

"Sure I am," Quade said. "But this is my job and I think it's a little dangerous. I'm sure I can handle it. Just the same, I don't want you around. For one thing you distract me and for another I'm still wondering about that virus disease that killed Udell."

Kathleen sniffed.

"Ha. Hey! We're being followed."

Quade threw a magnifying plane on the scanner. A sleek projectile was rocketing along after the camera cruiser.

"Oh, that's Speedy," Quade said. "One of the Zonals. He won't follow us long."

But this proved inaccurate. Speedy stayed on the trail for twenty miles before he was lost in the distance. Then nothing was visible but the frigid, Cyclopean peaks of the Devil's Range, icy and alien in the pale light of Saturn.

Things began to happen with alarming suddenness.

There are plenty of safety devices on spacecraft, but these depend on the assurance that you have a skilful and a conscious operator. Quade was skilful enough, but unfortunately he was knocked cold when the vessel sideslipped in a sudden blast of air, powerful as a cyclone, that screamed up from the Devil's Range. A geyser-heated valley below made a thermal of racing air that created a maelstrom where the icy atmosphere of Titan met it.

The camera cruiser turned sidewise and Quade went spinning into the controls. His head banged against his helmet, which made him lose all interest in the fact that the ship was plunging down.

Kathleen couldn't do much about it, though she tried hard enough. She was wedged under a tangle of apparatus, which imprisoned her but saved her from serious injury when the ship struck, with a splash that sent water leaping high.

Creamy, luminous liquid crept over the ship's nose. An oddly-shaped fish came to stare in pop-eyed amazement. Then it swam hastily away.

The ship grounded. Kathleen fought her way free and scrambled up the tilted floor to where Quade lay. There was blood oozing from his head, and Kathleen quickly removed the helmet and used the first-aid kit. But Quade remained stubbornly unconscious.

Two courses were left. Kathleen could fly the ship back to the camp or she could radio for help. She tried both, but without success. The controls were smashed, the gravity plates warped and broken.

The cruiser's day of usefulness was over. The radio was hash. A telephoto camera was strewn in sections about the room and some of the carboys of concentrate-dye had torn free from their moorings and were broken. The floor was awash with yellow and pink fluid.

Kathleen peered up through the ship's nose. The surface of the lake beneath which they lay wasn't far above, she judged. If she could swim up—that would be easy in the airtight suit. But what about Tony?

He wouldn't drown in ten seconds. She inflated both of the suits with oxygen, dragged Quade into the portal lock and shut the valve behind her with a futile hope that, if the atmosphere stayed in the ship, it might rise of its own accord, or at least that it would be easier to salvage the equipment. She opened the outer door and went head over heels into the rush of water. Somehow she kept hold of Quade's arm.

LUCKILY, the lock was angled so that they slid out of their own accord, buoyed up by the oxygen. Quade, still unconscious, blew bubbles. With panic beginning to dry her throat, Kathleen tightened her grip on his suit and they shot up like rockets into clear, cool Saturnlight.

Quade was torn away from the girl's clutch. She blinked and stared around. He was floating only a few yards away, his face submerged. Lying flat on the surface, Kathleen paddled to him, dragged his head up in the crook of her arm and awkwardly made for the shore.

Several sleek objects appeared above the surface and watched her speculatively. But they were somewhat different from the Zonals Quade had already encountered. Their heads were flattened, their jaws heavier.

Altogether they lacked the suggestion of good nature and humanity that the other Zonals had possessed. But they did not attack, for which Kathleen was duly grateful. She finally reached the beach and dragged Quade ashore.

He had swallowed little water, being unconscious, and with a small gasp Kathleen sat down beside him, weak with relief and reaction. She looked around.

They were in a crater perhaps two miles in diameter, surrounded by overhanging peaks and glaciers that seemed to be getting ready to rush down in catastrophic destruction. This lake, a small one, was in the very center. Plumes of steam flared up here and there, indicating geysers.

Underfoot was the eternal lava, rising into a jungle labyrinth of twisted malformations. In the distance Kathleen made out a great black dome, faintly glistening. But she could not guess its nature.

Meanwhile the Zonals were swimming closer, in a semicircle. They emerged from the water, dripping, to reveal another way in which they differed from Quade's Zonals. The sacs on their backs were shrunken and atrophied.

Kathleen found it difficult to believe that the creatures were harmless. She was eying the long, curved claws on the webbed hands, and the tusklike, capable teeth bared by retracted lips. If she had been alone she would not have waited to face the amphibians. As it was, Quade lay unconscious beside her. Neither of the two was armed.

The Zonals slipped closer. There was, Kathleen thought, unmistakable menace in their attitude. Growls rumbled from their throats. These weren't Udell's tame Zonals, that was certain.

Hastily Kathleen looked about for a weapon, but all she could find was a good-sized lava chunk. Hefting this, she stood up, waiting.

The Zonals, emerging from the water, closed in. Their growling was louder now. One amphibian was in the forefront; Kathleen could see him sinking lower as his furry legs bent and he tensed for a spring.

She hurled the rock.

The amphibian dodged easily. He sidled forward, and behind him came the others.

A man's voice shouted. There was the vicious crack of a whip. Again the harsh voice roared a command. The Zonals hesitated—and Kathleen looked back hastily to see a giant figure, clothed in rags, coming forward. Gray-shot red hair bristled wildly. His face was turned toward the Zonals, but the heavy broad shoulders spoke of enormous strength.

The whip cracked. The man bellowed an order.

SNARLING, the Zonals drew back. Suddenly they broke and fled to the lake. The man stood waiting till they had submerged and then turned to Kathleen. He stood quietly facing her, the whip hanging lax.

And something in his face made the girl shiver a little. The features were strong enough, even harshly handsome. But the glacial black eyes were—disturbing. There was no trace of expression in them. They stared like glazed jet marbles, cool and remote.

"My name's Milo Sherman," the man said. He glanced at the unconscious Quade.

As Kathleen opened her mouth, Sherman halted her with an upraised palm.

"Better talk as we go. The Zonals are dangerous." He laughed unpleasantly. "They're afraid of me, but I take no chances. Come on." He bent, hoisted Quade to his shoulders and started toward the glistening dome Kathleen had already glimpsed. "Now talk," he commanded.

Kathleen talked.

"I see," Sherman said as they rounded a shoulder of lava. "You're unlucky. However, you'll be safe for a while. There's my castle, see?"

Fifty feet away the building loomed, a dome-shaped structure as high as a six-story building. It seemed to be built of some gleaming black substance, broken at intervals by round gaps. Sherman marched forward, straight toward a blank wall.

No—not entirely blank—there was an inch-wide hole in it. And the hole began to broaden as they approached, opening till it was a gaping portal.

They stepped across the threshold. Behind them the hole shrank again, like a sphincter. They were in a large room, bare except for a sloping ramp that led up to a gap in the ceiling. A row of luminous spots glowed in the walls.

Sherman went up the ramp. Kathleen was behind him, a little troubled now, conscious of some unknown danger. Above, the room was larger, lighted by similar light-

spots in the walls. It was filled with a clutter of junk—chairs, tables—some of them twisted and broken—most of them rusty.

"Salvage," Sherman said. He went to a corner, dropped Quade into a shallow depression in the floor and tossed his whip aside. Quade's body sank down a few inches, as though into an air mattress.

"Well, take off your helmet," Sherman said coolly. "Make yourself at home. You'll be here for life—since there's no way of getting out of this valley!"

CHAPTER V

Perilous Valley

KATHLEEN sat down limply on a rusty chair that squeaked under her weight. Her fingers felt cold and clumsy as she unscrewed her helmet, deflated the spacesuit and shook her hair free.

"No way out?" she said. "We could climb—"

"You could try it," Sherman said, "till you got tired. The glaciers wall us in. And they crumble. I broke my arm six years ago trying to escape."

"Six years!"

"I've been here seven," Sherman told her. "I'm the last survivor of the patrol ship *Kestrel*, wrecked while making a forced landing in the Devil's Range. Three of us escaped with our lives from the crash—the ship's doctor, myself and another patrolman. Their graves are down the valley a bit." His eyes were blank.

"Seven years here, with the Zonals gradually losing their fear of me. They multiply faster than I can kill them. Now I've got about eight rounds of ammunition left—no, nine, I see." He showed an old-fashioned pistol.

"But the camera crew will search for us."

"A tiny valley in three hundred miles of mountains? And your friends won't know where to look, from what you say? For all they know, you might have crashed anywhere on Titan."

He hesitated.

"I'd forgotten something. You've got to be inoculated immediately. Otherwise you'll just go crazy and die."

Kathleen blinked. "Huh?"

"The plague—the one you say killed that man Udell and his crew. It nearly killed us before the *Kestrel's* doctor got on the track. You've got the virus in you now."

"That's impossible," the girl said. "Unless we were infected since we cracked up."

"You were infected before you ever landed on Titan," Sherman said grimly. "The virus is a protein molecule that exists in living organisms—Zonals and humans alike. Usually it's harmless—a recessive characteristic. But under the influence of a certain kind of radiation the virus becomes actively malignant."

"I don't get it."

Sherman had talked a good deal with the Kestrel's doctor before the latter died. He told Kathleen about the tobacco mosaic disease—how a plant, suffering from common mosaic disease, may suddenly become victim of a more virulent form—*acuba*—caused when the basic molecules change their structure.

"It's like that," he said. "There's a meteor on this continent which emits rays that develop the latent, harmless virus in one into the active, malignant form. That's what originally wrecked the minds of the Zonals, you know." He noticed Kathleen's pallor.

"Don't worry too much about it. I'm still alive, you see. Our doctor worked out a cure. The Zonals have antibodies in their bloodstreams—antibodies strong enough to immunize a human. They developed 'em, but not in time to save themselves from degeneration. I prepared a fresh batch of serum yesterday—so come along and I'll inoculate you."

"But—will Tony—"

"He'll be safe here. The Zonals don't dare come into my castle."

Kathleen followed Sherman through another of the sphincter doors. She was thinking of Wolfe and his crew. They were also exposed to the meteoric radiation—which would eventually kill them unless they were warned and immunized.

BUT when Kathleen told Sherman, he merely shrugged.

"We're in prison here. No radio. No way of communication. Your ship's under water and wrecked. So—" He picked up a hypodermic syringe. "You and your friend—what's his name, Quade?—you'll be safe enough, unless the Zonals kill us. They can't come in here."

"This building? Who made it, anyway?"

"The Zonals," Sherman said. "A long time ago. They were a plenty intelligent race before the meteor landed and the plague hit them. I've got an idea there used to be a lot of these castles on Equatorial—bigger ones than this, too. It's not exactly a building, though. It's alive."

"Alive? How?"

"Hard to believe, isn't it? I guess there's nothing like these castles anywhere else in the System."

"The studio biologists make robot animals," Kathleen said doubtfully.

"Yeah? These castles were made by the Zonals once—to live in. As though a lot of blood corpuscles had got together and built a man to live in. These castles don't wear out and they don't need electricity or air conditioning—they've got everything. Notice how fresh the air is?"

"I hadn't. But I do now."

"That's air conditioning. The castles breathe—they take in air, filter out the harmful bugs and cool or heat or humidify it if necessary. You don't need windows for light, with those eye-spots in the walls."

The syringe was ready. Sherman made an awkward but careful injection in Kathleen's arm.

"You're safe enough now," he said. "You're immune. But you'll need occasional booster shots. I'll fix up your friend next. Look around the castle if you want—it's safe enough, as long as you don't go outside." He refilled the syringe and departed.

Kathleen sat down to wait for the inoculation-shock to wear off. It was some time later when she heard a confused clamor from outside. Hastily she rose, found the weakness had passed and hurried to the room where she had left Quade. He still lay unconscious, the syringe at his side and a wad of cotton still sticking to his bare arm. Sherman was gone.

Outside the yelling of the Zonals stilled. Sherman's voice rose. The growling began. It rose to a roar. The whip cracked violently, but the noise did not stop, though it sank to a harsh murmur.

Presently Sherman came back into the room, dragging his whip. His eyes were bleak as ever, but a muscle was twitching under his eye. Without pausing he said, "You've set off the Zonals."

"I did? How?"

"Ever since I landed here the food supply in the lake has been diminishing. Before that, too, I suppose—but it got below the danger point not long ago. The lake's nearly cleaned out. There's another little pool 'way up at the end, but that's empty too, now.

"The Zonals are hungry. Which adds up to the fact that they figure we're good to eat. I told 'em to go catch fish—there must be a few left—but they didn't understand me, of course."

Kathleen gulped. Sherman grinned at her. He went through one of the sphincter doors and came back with the whip in one hand and a long knife in the other.

"I may have to fight," he said. "Our little friends are getting anxious outside. Here's my gun. If they get past me—use it."

The next ten minutes were far too long. It was impossible for Kathleen to guess what was happening outside; she could only listen to the muffled snarling and the incessant crack of Sherman's whip. Once Quade moaned and stirred and she turned hastily to him, but it was a false alarm.

Sherman backed into sight. He was retreating very slowly, using both the lash and his knife. Beyond him the Zonals pressed forward, snarling.

"Shall I shoot?" Kathleen asked softly.

"Not yet," Sherman said without turning. "Save it till—"

He stopped talking, for the Zonals' growling rose to a roar. They flooded forward into the room, forcing Sherman to give ground. He swung his whip—and it was caught, dragged from his hand. He went down under the rush of the amphibians.

Then the creatures were everywhere. Before Kathleen had a chance to fire, the gun was knocked out of her grip. The Zonals moved far faster than she had anticipated. She struck out desperately, hearing Sherman's hoarse curses as he slugged and battled under a mound of Zonals.

And just then the gun exploded. A concerted wave of panic caught the amphibians. They gave ground as the gun crashed again.

It was Quade, on his feet now, placing his shots accurately. The Zonals were beginning to drift toward the door, a movement that grew into flight and then to panic. In a minute or less the room was empty except for the three humans.

Sherman got up, rocking unsteadily.

"Lucky I didn't use the gun much," he said. "They're plenty afraid of it. But we're out of ammunition now."

"A fine thing to wake up to," Quade said,

sitting down and turning a pale green. "What's been going on? Kathleen—"

She told him.

CHAPTER VI

Poisoned Javelins

IT WAS indeed alarming news.

"Unarmed, eh?" Quade said when she had finished. Sherman had gone out of the room, but now he came back in time to hear the words. He was carrying a bundle of sharpened metal rods.

"Only these," he said. "I ground 'em a long time ago."

"Javelins? Mm-m." Quade dug into a pocket of his space-suit. "Neo-curare," he said, bringing out the bottle. "Lucky I brought it along. If we smear some of this stuff on the points, it ought to account for a few Zonals. It's a fast-acting poison. Anything going on outside?"

There was nothing. They stood in the castle's door-sphincter. As it automatically widened, the barren wilderness of the valley became visible. No Zonals were in sight. The lake glowed phosphorescently in the distance.

"Here comes something," Kathleen said.

With a swish and a thump something rocketed into view, plumping down just outside the threshold. Quade stopped Sherman's lifted javelin-arm.

"Hold on. He's not dangerous. This is Speedy, one of my tame Zonals. He must have trailed us here."

It was Speedy, all right and Speedy was staring with wild curiosity at Quade and the others. The contrast between this amphibian and the degenerate Zonals of the valley was marked. The fangs and claws of the decadent tribe didn't show in Speedy, and his high-arched cranium hinted at intelligence, not brutal ferocity alone.

"Pencil and paper, quick!" Quade said. "We've got a carrier pigeon here!"

Sherman vanished. He reappeared in a moment, bearing a small metal cylinder and a length of wire as well as writing equipment. Quade hastily scribbled a note, thrust it into the cylinder and cautiously approached Speedy.

The Zonal almost got away, but was betrayed by his suspicion that Quade's hand was good to eat. Quade held the amphibian firmly while he fastened the cylinder to Speedy's body and tried to keep his hands out of reach of the nibbling mouth at the same time.

"Hope he doesn't know how to untie knots," Kathleen said. "How about it, Tony? Will he head back for the camp?"

"I don't know," Quade said. "Still, that's where he lives." He released the Zonal. "Blow. Take a walk. Rocket off!"

Speedy reached for the metal tube. Quade yelled and clapped his hands, and the amphibian rocketed away in alarm. He came down fifty feet away, near a mound of lava and went to work on the wire.

Quade started toward him, running. From behind the lava block came two of the decadent Zonals, closing in on poor Speedy. He didn't see them until too late, and then he went down under the rush, fighting with feeble valor.

Quade stopped. He couldn't reach the battle in time, but he still held a poisoned javelin. He hurled it at the struggling group.

Speedy yelped, waving a bleeding arm grazed by the metal point. Quade was a poor marksman with this unfamiliar weapon.

But Sherman was a better one. His javelin struck one of the attacking Zonals and got him through the heart. The other, taking alarm, fled.

SPEEDY lay limp and unconscious. Quade started to run again, hearing footsteps behind him. He felt slightly sick. The last chance for escape was gone now. Then his eye caught a flicker of motion. Speedy wasn't dead. He grunted, stood up, swaying, and stared around.

A yelling came from the lake.

"Come on," Sherman said urgently. "Let's get back to the castle. We haven't a chance here in the open."

Speedy suddenly rocketed away. Quade saw him land beside Kathleen at the castle's doorway. The two men fled, hearing the thud of racing feet and the roars of the Zonals rising in volume. They reached the castle—and Quade got the shock of his life.

"They try kill us, yes?" an unfamiliar voice said hoarsely.

Quade looked at Kathleen, then at Sherman. They, too, were staring. Again the voice repeated its question. Slowly Quade turned to meet the unblinking gaze of Speedy.

"This bad place," the Zonal said. "Better go."

"He talked," Kathleen murmured unbelievingly. "He's intelligent, Tony!"

"Intelligent," Speedy repeated. "Yes. Your language hard. But Earth man Udell taught us some words. Speak."

Quade swallowed.

"Yeah. You speak, all right. But how? Have you been playing dumb all along?"

Speedy looked puzzled.

"Earth man Udell stick us with needle."

"That's it," Quade said abruptly. "So that was Udell's trick!" He glanced around. "We can't get out. Our ship's wrecked. Understand?"

Speedy nodded.

"Understand. I get help."

"You know where the camp is?"

"I know. I go there now. Tell men—bring them here. Yes."

He rocketed up and was gone. His sleek figure was visible swooping toward the ice barrier. Then he had crossed it and vanished.

"Let's go inside," Quade said. "I'd hate it if the Zonals ate us before Wolfe got here."

Inside the castle Quade divided the javelins and passed them around.

"One mystery's solved," he said. "There won't be any trouble in filming *Sons of Titan* now. The Zonals are intelligent—but it takes a shot of neo-curare to make 'em that way."

"A poison?" Kathleen asked. "Spill it, Tony."

"A poison to us, not to the Zonals. They've a different sort of physiology. The neo-curare doesn't hurt 'em. It just liberates their subconscious."

"Huh?" Sherman said.

"Here's the angle. Scientists got on the track a long time ago—'way back before nineteen-forty. They experimented with a dog—trained him to do certain things at the sound of a bell, a conditioned reflex, you know. Then they doped him with curare and developed other habit-patterns in his brain, also set in action by the bell.

"They proved the two had two independent behavior-systems in his mind—that both could be trained to react to the same stimulus and do it independently of each other. It works like that with the Zonals."

KATHLEEN blinked. Quade went on. "It's logical enough. The virus that wrecked the Zonal culture ruined only their conscious mind—made 'em idiots. Their subconscious minds weren't harmed. They still retain their potential power. But they're subconscious, of course—blanketed.

"The neo-curare simply inhibits the higher centers of the brain, the part that was wrecked by the virus, and releases the subconscious. And while that's in control the Zonals are intelligent! This will mean rehabilitation for the whole race, someday. Udell taught and trained 'em while they were doped with neo-curare.

"So all we have to do is follow Udell's lead. When we get back to camp we'll first of all immunize the men with the antivirus and then break out the neo-curare. We can finish *Sons of Titan* in a few weeks!"

"You forgot something," Sherman said. "One of the degenerate Zonals got inoculated with neo-curare too, just now."

"Well, the javelin also went through his heart," Quade said. "You can't be smart when you're dead. I dunno about that but I've got a suspicion the neo-curare won't have the same effect on these Zonals of yours. They're so decadent that even their subconscious may be bestialized.

"They're almost a different race, as far beneath the regular Zonals as a hyena is beneath a human being. We can try it out and now's our chance, because they're attacking again. So we can't wait till Wolfe arrives. Kathleen, our ship's wrecked, isn't it?"

"I think so," the girl said dubiously. "The plates are smashed."

"Um. I may be able to do some repair work. It's worth trying. Your helmet's okay, isn't it?"

Kathleen nodded.

"But you're not going outside, are you?"

Quade was donning his spacesuit. He pulled the transparent helmet into place.

"I am," he said through the diaphragm. "Our javelins won't keep the Zonals off long unless the neo-curare will do the trick—and I'm going to find out. At worst, even if our ship's wrecked, there's a gun or two in the cabin." He turned to Sherman. "Take it easy. Luck."

"I'm going with you," Kathleen decided.

"There's only one helmet," Quade informed her. "I'll be safe enough in this spacesuit. You stay here till I get back, understand?"

"All right," the girl said obediently and Quade departed.

"First time in her life she ever did what I told her," he thought, plodding toward the lake. This job was going to be dangerous, regardless of what he had told Kathleen. If the Zonals attacked—

He went on. A number of the Zonals trailed him. One ran forward, and Quade spun quickly and threw his javelin. He didn't want to kill. He was making an experiment. The sharp-ground point ripped into the amphibian's leg and the Zonal fell instantly.

Quade waited. After a minute or more the creature hoisted itself laboriously upright. It had fallen behind its fellows, who were still following Quade.

It ran after them, limping. Its low snarling mingled with the menacing noises of the others. One glimpse of the amphibian's brutal face told Quade that his guess had been right. These Zonals were so decadent that not even neo-curare could make them intelligent.

SHRUGGING, he turned to the lake. A gleam of metal told him the location of the sunken spaceship. Quade waded in. The luminous water seethed about his knees, his waist—closed over his helmet. That didn't matter. The chemicals in the suit supplied plenty of air.

He saw the ship, a black shadow, looking like a great resting shark on the bottom. Thanks to the luminosity of the water it was surprisingly clear; he could make out details easily. And now he could hear noises that must mean pursuit. The Zonals, he thought, were amphibians.

They swam down, keeping a safe distance for the time as Quade manipulated the spacelock. As the Zonals saw him disappearing they came in fast. Quade got another javelin from his belt and used it efficiently.

But after that he was reduced to using his fists, which was not too effective under water. The Zonals began dragging him out of the lock. Quade reached out, caught a lever, and tried to anchor himself. He couldn't.

But inside the ship there were weapons.

He struck out frantically at another lever. The inside port opened. The sealed ship became unsealed in an instant, and the lake poured in, carrying with it Quade and a dozen Zonals. By the time the water had settled, a steady stream of amphibians were swimming down through the open lock, and the water had changed color to streaky yellow and pink that gradually merged into an ambiguous darker hue.

Briefly puzzled, Quade noticed that two carboys of the concentrated aqueous dye had been smashed. Also, Kathleen had left the ship's lights on, so the Zonals, temporarily distracted, were able to see Quade and to converge on him.

They got him down, clawing at his suit with their talons. That didn't worry him. The armor was tough. But one of the Zonals, after breaking a tooth on Quade's helmet, got a bright idea. He found a metal bar somewhere and began smashing it down on Quade's head. He used it like a piston, so that water pressure was minimized, and the helmet began to show a webwork of fine cracks.

Quade twisted, got hold of the bar and tussled it free. He levered oxygen into his suit hurriedly. Buoyancy took over, and he shot up out of the heap of Zonals and bounced off the ceiling. But the amphibians instantly swam up after him.

It was then that Quade noticed the row of carboys in their wall-cradles beneath him....

He broke them. Using the metal bar, he floundered and fought and smashed his way through the Zonals down the line, while blue and green and translucent orange flowed out from the carboys, staining the water brilliantly. It was tremendously concentrated, this aqueous dye.

And, while each dye had been made to blend transparently with water, there is a simple principle of the color-wheel that added up to complete opacity. If you mix a lot of colors, you get black. This wasn't dead black, but it was darker and thicker than a Venusian fog on Darkside.

Within moments the Zonals were fighting by touch alone. Luckily for Quade, they had no scent-organs worth mentioning, or could not use them under water. And they did not know the spaceship, while Quade could have found his way from bow to stern blindfolded.

He was blindfolded. But the Zonals were in a worse predicament as Quade found when he opened the arsenal, abstracted a few weapons and dodged his way out of the dun-colored lake to shore. Some of the amphibians were emerging on land, but they were wandering around vaguely, with helpless, groping motions.

They had hollow eyeballs and used water

for lenses. Thus, since they'd sucked in the dark-dyed lake-water by now, they were blinded until they could find clear liquid of some sort!

HORDES of them were emerging from the lake. They were grouping together now, stumbling up the valley toward the pool at the upper end. There they could regain their vision. But it would take time, and Quade, his arms loaded with blasters and thermo-pistols, grinned tightly and started back toward the castle.

No Zonals were visible when he reached it. Kathleen and Sherman ran forward to meet him. Quade let the guns fall.

"Wait'll I take off this suit," he said, and unzipped himself. Sherman was lovingly loading the weapons as Kathleen helpfully tried to pull off Quade's helmet without loosening the bolts.

"Okay," Quade said, beating her off. "I'll do it. There! Now. Let me tell you what happened." He explained. Sherman whistled.

"Blind man's buff! That should hold the Zonals for a while. They'll be all right after they get to the upper pool and rinse their eyeballs out, but it'll take a while. And with these guns—" He touched a thermo-pistol with expert fingers. Then, suddenly, he looked at Quade.

"I just thought—I hadn't realized it before! I'll be getting out of here! After seven years—"

The big shoulders shook.

"I'll take this gear inside," Sherman said. "I—"

He didn't finish. Carrying the guns, he went into the castle and the portal shrank behind him.

"Give him time," Quade said slowly. "Let's wait here for the ship."

So they did. And when it loomed over the glaciers Kathleen sighed, relaxed against Quade's shoulder.

"Now we're all set, huh?"

"Right," Quade told her. "Because you're going back Sunward with Sherman. He's got to report to Patrol headquarters and I'm going to have him take you with him."

"Tony!" Kathleen said reproachfully. "You don't love me any more!"

"I adore you madly," Quade said, ignoring the sputtering girl as he signaled the approaching ship. "You hate me. Our engagement's broken again. You'll get Von Zorn to blacklist me. You'll elope with a crooner. I know exactly what you're trying to say. Just the same, you're going Sunward with Sherman. I've got a picture to shoot! You hear me?"

"Of course, Tony," murmured Kathleen, who was already laying new plans. "But I just happened to remember. What about the Planetary Quarantine laws? We've all been infected with this Titan virus and, even though we've got the antitoxin, we've got to stay on Titan for thirty days—or is it sixty? Don't look at me like that! I can't help it, Tony—honest I can't—it's the law—!"

"Listen, Man! You've—Eliminated Friction! Completely! Where'd You Get the Idea for That Thing—"

DR. DAVID MURFREE was beside himself with astonishment as he gazed alternately at the unlettered hillbilly, Bud Gregory, and the odd device which had just put his car back into running shape as if by a miracle. Gregory shrugged his shoulders, yawned, and said casually:

"The idea just come to me. I gotta knack for fixin' things."

"It should be patented!" Murfree exclaimed. "What'll you make one of these for me for?"

Bud Gregory grinned. "Too much trouble," he said. "Took me a day and a half to put it together and get it workin'. I don't like that kinda work."

Gregory wouldn't listen to any business propositions—because the idea of work simply didn't appeal to him. But his strange invention made things stir in Murfree's mind—and the further exploits of both Dr. Murfree and Bud Gregory will set you thinking, too, when you read THE GREGORY CIRCLE, by William Fitzgerald—a novelet unique in the annals of science fiction! It's one of the highlights of our next gala issue.

A MATTER OF SIZE

By SAMUEL MINES

Tall Professor Dexter and short Professor Curtis swap sizes—and here's the long and short of it!

PROFESSOR HIRAM DEXTER put the finishing touches on his toilet by tenderly brushing out his crisp, black Vandyke beard. He stepped back to look at himself in the mirror. He had to stoop a little for even the full-length glass was short for his six feet four inches of gangling height. Nevertheless he regarded his image with undiluted satisfaction.

"Ah, Dexter," he sighed, "you're a dashing rascal."

Humming tunelessly, for he was quite tone-deaf, he picked up a book titled, "The Nutritive Quotient, Vitamin Factors And Trace Elements of Protein-High Diets," put his hat on, the light out, and left the house.

Outside, a spring night hovered tenderly over the campus of Fredonia College. The darkness was alive with the richness of new grass, the vagrant perfumes of verbena, alyssum, calendula, nemophila and ageratum, not to mention lobelia, mignonette, nicotiana, scabiosa, Kochia and salpiglossis. He knew them all and loved every Latin syllable.

His nostrils dilated with pleasure as he strode, with a loose, almost clanking motion, along the concrete paths. It was a night for romance, for tender, whispered discussions of vitamins and tissue regeneration, of gamma rays and the atom.

Professor Dexter's heart welled with the rich pathos of life. As straight as the curving paths would allow, he headed directly for the neat brick house where dwelt his lady love: Professor Clarissa Wilkins, of the Domestic Science Department.

At the foot of her steps, a shadow loomed out of the dark. It was a very short, barrel-shaped shadow. Prof. Dexter leaned over from his great height, to peer at it.

"Ah—is that you, Donald?" he queried.

"Who were you expecting?" snapped the tubby shadow peevishly. "Hirohito?"

Professor Donald Curtis was in almost every way the opposite of his friend Hiram Dexter. He was five feet two inches in his elevator shoes and his circumference was better than that by two or three inches. He was as quick, and jumpy in his movements as a chipmunk and he seemed to buzz around the taller, slower-moving man like an irritated bumble-bee. Nevertheless they were fast friends, rivals only in their physics research—and for the hand of Professor Clarissa Wilkins.

They turned and ascended the steps together. Professor Curtis clutched to his plump bosom a book titled: "A Statistical History of the Nutritional Influence Upon Intelligence of the Child From One to Six." Neither were Greeks, but they both came bearing gifts subtly slanted to their beloved's tastes.

PROFESSOR DEXTER pressed the doorbell and a muted chime rang softly within. The door opened and light bathed them, pressing back the soft darkness of the spring night.

"Good evening, Professor," Professor Dexter said, beaming at the lady in the doorway.

"Good evening, Professor," Professor Curtis echoed, smiling broadly.

"Oh, it's you," Professor Wilkins said. If this had been the South she would have said you-all.

Clarissa was an energetic spinster in her

forties with snapping black eyes, graying hair drawn into a neat, no-nonsense bun at the back of her head and the most remarkable grasp of bio-chemistry of any woman alive. Professors Dexter and Curtis admired her intellectual attainments extravagantly and mistook the admiration for love.

She let them in, accepted their gifts with a murmured thanks and waved them vaguely to chairs. She seemed a little absent-minded, a bit distracted this evening.

Professor Dexter cleared his throat.

"A most amusing thing happened in class today," he began. "I was lecturing—"

"That was amusing enough," Professor Curtis snapped testily. "Professor—er—Clarissa," he said daringly, "referring to the Stefansson experiments in living on meat alone for a year—"

"By the way," interrupted Professor Dexter, "I don't see any of those—er—those delicious cookies you make so well, Professor. Those—ah—little brown ones with the chocolate chips in them."

He was peering around anxiously.

A flicker of emotion crossed Clarissa's face, but was gone at once. She rose.

"I'll get them."

She returned bearing a plate heaped high with crisp, crunchy, chocolated cookies. The professors' eyes lighted. They reached.

Professor Dexter hurried into the conversational breach, impolitely not even waiting for his mastication to cease.

"A most amusing thing happened in class today," he repeated.

The doorbell chimed.

Anticipation lighted up Professor Wilkin's cool gray eyes. She went to the door and presently returned with a man in tow.

"Professor Dexter, Professor Curtis, you know Mr. Donahue, our athletic director."

They knew Jake Donahue. They did not approve of mere muscle, without mind. They gave his powerful, athletic figure, his rugged, square-jawed face a disapproving glance.

"How d'ye do?" they said.

"Hi!" said Jake Donahue.

He sat down. Clarissa transferred the plate of cookies to his side. He munched. And a surprising thing happened. Mere muscle could never triumph over intellect, yet the Professors Dexter and Curtis found themselves pocketed, side-tracked and elbowed aside.

The conversation was of football, racing, track, crew, basketball, pole-vaulting, shot-putting, boxing, swimming, wrestling, baseball, not to neglect tennis, skeet-shooting, ice-skating, skiing, horseback riding, lacrosse, bob-sledding, jai-alai, handball and billiards.

They took it for an hour. Then they folded their tents like the Arabs and as silently withdrew. The final blow was that Clarissa hardly seemed to know they were departing.

Defeated, they stared at one another, when outside. The spring night was still fulsome with perfume and romance. But the joy had gone from their hearts, the glamour was an empty, mocking shell.

"This may be new to us, Professor, but it is a familiar thing," Curtis said as they began to walk down the path. "The female of the species wishes to be conquered. Hence, whatever her intellectual endowments, instinct triumphs over intellect and she succumbs to the animal magnetism of brute force."

"But it's Clarissa!" Professor Dexter said weakly.

"Even Clarissa. Oh, of course if she married him she would soon awake to her horrible mistake. She would weary of an endless conversation about basketball and foot racing. She would yearn for the rarified heights of our discussions. But it would be too late."

"We must rescue her from this tragic error, Professor," Dexter said firmly.

"Yes," Curtis agreed. "How? Did you ever try to change Clarissa's mind?"

"Uh—once." Professor Dexter shuddered at the memory. "It was worse than my fraternity initiation—which I still remember with revulsion after twenty-six years."

THEY walked in moody silence for a while, Professor Curtis skipping to keep up with his friend's loose-jointed stride. Then Professor Dexter stopped with an exclamation.

"There is a way!" he said. "Look. It seems obvious that what Clarissa admires in this Jake Donahue is not his conversation but his overwhelmingly masculine physique. Do you agree?"

Curtis grunted. His own figure was a sore spot with him.

"Against Jake Donahue—let us face it—we do not cut inspiring figures. I am too tall and you are too short. But suppose we were to change—suppose I were to come down four or five inches and fill out correspondingly and you were to come up ten inches and slim out correspondingly? Then how would we compare with Donahue?"

Professor Curtis stared at him angrily.

"There may be something wrong with my ears, but I doubt it," he snapped. "I think I heard you say what I heard you say. And I wish to point out, with bitterness, that this is hardly the time for fanciful pleasantries."

"Nonsense!" Professor Dexter said. "I am not joking. We have the means in our grasp. Come along with me and I'll show you."

He hurried the protesting Curtis along, the little man's feet fairly flying to keep up. At the darkened physics building, Dexter used his key and let them in. They went up to the laboratory.

"You know my work on the atom," Dexter said. "I have never boasted of my part in atomic fission which resulted in the atom bomb. I was pledged to secrecy but there is no harm in telling you what you have doubtless guessed, that I was one of the physicists whose work on uranium made the bomb possible."

Curtis nodded. There was no jealousy in him, only the true scientists' appreciation of a good job well done. He was Dexter's staunchest booster.

"What I have done," Professor Dexter said, snapping on the lights in his laboratory, "is to shift my research away from destructive metallurgy and turn the light of new atom discoveries upon protoplasmic tissue. If the atoms of metal can be shifted, altered or broken apart, why not living tissue?"

"Because your subject would die, obviously," Curtis replied.

"They did, at first," Dexter admitted. "The reason was that the cyclotron—" he waved at a hulking monster which looked like two giant Swiss cheeses lying flat, one above the other "—was much too powerful to use on living things. The problem was to use less power, apply it more slowly, yet retain the ability to move the electrons about the nucleus."

Excitement began to pop in Professor Curtis' voluable face.

"You did it?" he stammered.

"I did it. Needing only reduced power, I scaled down the cyclotron and incorporated the electron stream in this cathode tube. What I have here is essentially a pocket-sized cyclotron which I am satisfied will have no lethal effect upon living tissue."

"But what will it do?"

Professor Dexter shrugged bony shoulders.

"Anything. By exerting the proper kind of force on the electrons I can crowd them together, thus reducing anything in size. By bombarding them with a different intensity I can cause them to repel each other and thus increase the size of the subject. Or—I could simply alter his appearance by shifting the arrangement of the atom, or by knocking out some of the electrons which would change his chemical composition."

"Then you can actually make us smaller or larger?"

"I am convinced of it. I never intended, nor expected, to put the machine to such frivolous uses. I had dedicated it to pure science. But what is science, after all, but a tool which man should use for a better life? And our lives are now affected, Professor. We must use science to solve our own problems."

"Admirably put."

Professor Dexter laid his hand on a huge shining cathode tube, whose terminal ends were clamped in the shining copper embrace of a massive induction coil.

"To be fair, we will need two of these. We will both undergo the experiment simultaneously—you to grow, I to shrink. Will you take the risk, Professor?"

Curtis clasped his hand.

"Gladly."

"Then I shall build another apparatus and as soon as it is finished we will complete the experiment."

"I will help you, Professor," Curtis exclaimed.

WORKING feverishly, they completed the job in a week. Two identical machines stood near each other on the lab floor, shining cathode tubes poised like a pair of futuristic ray guns.

In all this time they had no word from Professor Clarissa Wilkins.

"Probably baking cookies for Jake Donahue," Dexter said bitterly.

"If he eats enough of them he'll get fat and lose his figure," Curtis said. "But it would take too long."

They finished early one afternoon and by common consent made their plans to go through with the experiment the next morning. Though neither man would admit it they were just a little scared. They went home and made their wills. Each left everything they possessed to Clarissa.

Early the next morning, before the campus was astir with class-bound students, they met at the laboratory. The grass sparkled with

dew and all the freshness and sweetness of a spring morning tugged at their hearts. Professor Dexter had circles of sleeplessness under his eyes and Professor Curtis' chubby face was drawn and haggard.

They entered the laboratory. Professor Dexter set the automatic timers on both machines. They shook hands gravely, then, unable to find words, took their places silently under the gleaming eyes of the cathode tubes. Together they raised their hands and depressed the switches.

Deep in the basement a generator sprang to life and faintly they sensed the deep rumble of its movement. The Coolidge tubes awoke as the stream of electrons impinged upon the platinum target plates. And then the shock of induced rays struck them, sank into them, seemed to flow and spread to every tissue and cell.

Something was happening to Professor Hiram Dexter. He felt, first of all, a sudden surge of nausea that rocked him on his long legs. His stomach twisted and a paralyzing weakness turned his muscles to water and made the lab swim unsteadily before his eyes.

At the same moment he felt a definite shrinking effect. His limbs became suddenly heavy. He felt in the grip of a vastly increased gravity, like a man going swiftly upward in a fast elevator. He was unable to move because of the strange weight of his arms and legs.

Then, to his horror, he saw the Coolidge tube sliding swiftly up out of his line of vision. The edge of the lab table came up, passed his eyeline and began to recede toward the ceiling. He was shrinking, but too fast and too far!

Even in that moment of undisguised terror, his scientist's mind noted that his clothes shrank with him. The ray worked on them as well as his living tissue.

Steadying his reeling vision, he searched wildly for Professor Curtis. Far across the huge expanse of rough, pitted lumber which the lab floor had suddenly become, were two shoes the size of the Queen Elizabeth. From them two colossal legs, each like the Washington Monument, soared into the sky. He could see only just past the knees. The rest of the torso loomed into the distance. The ceiling was unthinkable distances beyond.

There came the click of the automatic timer. The power went off and the Coolidge tube subsided into lifelessness. The potent stream of electrons ceased.

Slowly the nausea lifted. He could breathe again. He stared around him, terrified at the huge, strange cavern he was in. Judging from the apparent girth of chair legs and similar objects near him, he was about three inches tall! The fleeting thought crossed his mind. If a mouse should come across him now! What a terrifying carnivore it would be!

But this was not the worst. He could not move. At first the dreadful thought came that the rays had somehow paralyzed him. But there was no numbness in his muscles. They were simply too heavy to lift themselves. He stood as immobile as though he had been nailed to the floor.

Across the room Professor Curtis was having his troubles. The ceiling had shot down to him as it had to Alice-In-Wonderland when she had drunk the little bottle labeled, "Drink Me."

HE HAD hastily stooped to keep from bashing his head and he had to keep on stooping more and more until he was bent more than halfway over before the click of the automatic timer released him.

"This is a little too much of a good thing," he muttered and was startled at the sound of his own voice. It was light and fluttery with a sound like soap bubbles bursting in midair.

"Professor!" he called. "Professor Dexter! Where are you?"

The tiniest of squeaks came up to him. Still feeling light-headed and dizzy, Curtis searched the area carefully. With horror he spotted at last, the diminutive, toy-like figure of his friend.

He took a careful step forward. His limbs seemed to float, with little effort, which was fortunate, for he felt as weak as though he had just emerged from a long illness.

Then he realized there was only one way to get close. He lay down flat on the floor, doubling up at knees and waist and got his face close to the tiny figure of Dexter.

"Get me out of here!" the mannikin squeaked painfully. "Start the machine and reverse it!"

Professor Curtis clambered to his feet.

If Clarissa could see us now, he thought. I am twenty feet tall and Professor Dexter is three inches tall. What a pair!

Weakly he lumbered back to his machine and reached for the control. Then, crowning

horror of horrors! The lever sank right into his hand!

It hurt like the devil too, and he pulled back his arm with a yelp of pain. Carefully he tried again. And again the solid metal seemed to push right through the flesh.

Dazed, frightened, he cautiously tried to touch other objects. There was always the same result. Everything penetrated his tissues like a needle going through cloth. Yet he did not bleed.

Terrified, he went down on his stomach to report this new catastrophe to Professor Dexter. The shrunken scientist groaned.

"That was the one thing I forgot," he squeaked. "I forgot that no matter how I altered the size of the atoms in our bodies, the mass would remain the same. Thus I am now so heavy that I cannot move. You are so light that you have no strength and your atoms are so dispersed that solid objects penetrate your tissues and you cannot move the switch. We are trapped, Professor Curtis, trapped like miserable rats in a cage!"

There was a timeless moment of despair during which the two pioneers stared at each other in hopeless terror. Only Professor Curtis saw a mere pinpoint of white face too small for features, while Professor Dexter saw a huge floating blob of a planet like the full moon looming over him.

There was a sudden and welcome interruption. The door banged and Clarissa Wilkins' crisp efficient voice came to their ears.

"What's going on in here?" she demanded. "Professor Curtis, is that you? What have you been doing to yourself? Get up off the floor!"

"Careful!" Professor Curtis panted, beginning to unjoint himself. "Don't step on Professor Dexter!"

"Step on him? My heavens, where is he?"

"She wouldn't hurt me if she did," Dexter groaned to himself. "Probably break her foot."

"Clarissa—er—Professor Wilkins, turn on the machine for us!" Curtis gasped, pointing wildly to the starting switch.

"Tell her to reverse the polarity!" Dexter squeaked.

Clarissa snorted as she moved purposely toward the machine.

"I always thought you two theorists were too childlike to be left alone," she snapped. "I knew you'd get into trouble and need a woman to get you out!"

Efficiently she reversed and started the machine as Professor Curtis stepped into the path of the rays. Before her startled eyes he shrank—shrank—shrank back to his normal elevator-shoed tubbiness, and the timer clicked off the machine.

With a gasp of relief, Professor Curtis leaped forward and did the necessary for Dexter's machine. To Clarissa's even greater wonder, Dexter grew rapidly out of the floor and shot up into his normal gangling six feet four.

Both scientists faced each other with beads of sweat on their brows. Their hands met silently.

"When you two get through admiring one another, I'll tell you what I came here for," Clarissa said crisply. "I just wanted you to know that I am going to marry Mr. Donahue!"

They heard her go, but the sense of loss did not come. The sense of relief persisted.

"She's a wonderful woman," Professor Curtis said softly.

"Yes," agreed Professor Dexter. "But you see now what difficulties this mating instinct is apt to bring on? This insane desire to please an illogical woman? Professor Curtis we have had a narrow escape!"

"You are right," Curtis said gloomily.

"Besides," Professor Dexter sighed, "I think it was those chocolate chip cookies she baked so well that I was really in love with. I am going to miss them."

"Maybe she'll let us drop around some evenings and she'll bake us some," Curtis suggested.

Their eyes brightened. All was not lost.

Virgil Hathaway, Penobscot medicine man, suddenly finds himself the possessor of eight stone-throwing sprites in

THE RELUCTANT SHAMAN

By L. SPRAGUE DE CAMP

COMING NEXT ISSUE!

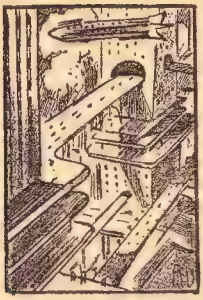
THE PLEASURE AGE

By JOED CAHILL

Riley Ashton rebelled against mankind's robot-run Utopia, and it was a good thing he did when the robots ran down!

CHAPTER I

That Naughty Word



OCTOBER 8, 2866, was a memorable day for young Riley Ashton. It was his sixth birthday. It was the day he got his first good look at American City. Also he learned a new word, a thrillingly naughty word, and Aunt Betty came to live with the Ashtons.

At that time it was the custom all over the world to keep the children secluded in their own homes, or at least in their own neighborhoods, until they were six years old. On his sixth birthday the child, escorted by one or the other of the parents, was taken for his first tour of the city in which he lived.

Excursions of greater length, to other cities and sometimes to other continents, were planned for future birthdays. Like many another convention this custom can not be explained. It was simply the way things were.

So, on the day Riley Ashton became six years old, his mother, foregoing her own pleasurable pursuits, devoted the day to his entertainment. In giving Riley so much of her time Mrs. Ashton felt that she was making a real sacrifice.

She had seen American City on several occasions, and she found it boring. It was much more enjoyable, everyone thought, to remain in the leisure of one's own home. There, one might gossip with friends by television, or visit with one's club through the same medium or, if one preferred, listen to a musical program or see a good story simply by tuning in the American City Telecasting Station.

"I suppose this is one of the responsibilities of being a mother," said Mrs. Ashton to her husband, "but I do think, Charles, that you might take Riley for half the day."

"I can't," Mr. Ashton argued, rubbing his bald head. "I have an important Council meeting this afternoon."

"Oh," Mrs. Ashton rejoined vaguely. "But you give such a tremendous amount of time to the Council. Isn't this the third time, this year?"

At that moment, young Riley appeared in the door. He was a tall sturdy child, browned by sunlamps and dressed in the conventional short, khaki tunic and pants. About his middle was strapped a new float belt, a simple device which opposed the magnetic field of the earth.

"Look at me," he commanded proudly, and floated about the room supported in a semi-horizontal position by the belt. "Boy, this is a swell new belt."

"Glad you like it, son," said Mr. Ashton. "Happy birthday, and run along with your mother. I've got to tune in the Council meeting. We're appointing a committee."

"If you must, I suppose you must," Mrs. Ashton said. "I do hope you win, this time. You are so cross when you lose."

Riley winked one large blue eye.

"Don't roll any boxcars, Pop."

Mr. Ashton held up his crossed fingers and winked back at his son.

Riley and his mother did not meet many people. It was rare that anyone except an occasional traveler was seen on the streets. But the city was alive with the hustle and bustle of the automeks. The automeks were machines of various types and functions, endowed at the time of manufacture with the

For months they labored on preparations for the trip to Venus

necessary mechanical brains to perform a certain ordered set of operations.

Riley was not particularly interested in them. He had seen many types of automeks before. They performed all the tasks about the homes, leaving the people free to enjoy themselves in conformance with whatever custom decreed as enjoyable.

BUT Riley was fascinated by the tall buildings, the factories and the warehouses. He drank in those sights with eager eyes and asked a thousand questions, most of which Mrs. Ashton was unable to answer. Riley particularly enjoyed a visit to one of the factories. On the outside of the building was a sign which read:

FOUNDED IN
2432
BY SMITH & CO.

Riley thought the huge, humming machines very interesting. Within the transparent plastic cages intricate mechanical fingers were making clothes. Riley wished he could get closer so he could see better how the operations were carried out, but the plastic walls barred his way.

He could see that they were making children's clothes, exact duplicates of his own tunic and pants. And, suddenly, he recalled a word he had heard.

"Mother, what does 'work' mean?"

Mrs. Ashton was shocked.

"Riley, where did you hear that dreadful word?"

"I heard Pop say it. He said that being on the Council was just like—"

Mrs. Ashton's frantic hand closed her son's mouth. "Don't say that!" She explained more gently. "Nice people don't use that kind of language, Riley."

"Isn't Pop a nice person?"

"Of course. Your father must have been exasperated. Poor man—he has so much to worry him with those dreadful Council meetings and everything. But you must promise me never to use that word again. Not until you're twenty-one anyway."

"Yes, but, Mother, what does it mean?"

Mrs. Ashton sighed.

"That—that word means what the automeks do. There are some things people just don't talk about. You wouldn't want to grow up to be like an automek, would you?"

"They have fun," Riley said wistfully. "I never have any fun."

"Riley Ashton! How can you say such a thing? Your father and I have given you everything. And I've missed my club today, just to entertain you."

"But automeks *do* have fun," Riley protested. "They make things. You won't let me make things."

Mrs. Ashton seized her son's hand firmly. "We're going home. Right this minute. It's time your father had a talk with you. Making things! The idea!"

At home, Mr. Ashton was still in Council meeting and, when Mrs. Ashton floated into the room, he looked up from his desk rather annoyed.

"Sh!" he said.

On the television screen at one side of the room appeared the figures of the other Council members. On a smaller screen was the image of a pair of enormous dice in a cage.

"Your turn, Ashton," said one of the men."

"Okay, Waine." Mr. Ashton pressed a button on his desk, and the cage of dice began to revolve rapidly. All the men held their breath until the dice stopped bouncing. Two sixes showed.

"Drat!" said Mr. Ashton explosively. The men all laughed.

"That winds it up," said Mr. Waine. "That makes you a committeeman for the next three times."

"Drat!" said Mr. Ashton again. He turned on Mrs. Ashton. "That was your fault, my dear. I've been losing all day."

"I'm sorry," Mrs. Ashton said meekly. "But, Charles, you've simply got to do something about Riley. He's picking up the most terrible expressions and ideas."

MR. ASHTON pressed a button, and the figures disappeared from the television screen.

"What is it this time?"

"Well, he's saying—" Mrs. Ashton colored delicately. "You know—that *word*. And he thinks he ought to be allowed to—to make things like an automek. You'll just have to talk to him."

"Ummm," said Mr. Ashton judiciously. "Riley's six today, isn't he? I suppose it's time I talked to him about the facts of life."

In the due course of events young Riley appeared before his father.

"Son," said Mr. Ashton, "I want to have

a long talk with you—man-to-man. You're six years old, today, aren't you?"

"Yep. And say, Pop, do you know what I saw, today? I saw the automeks making things. I wish I was a automek."

"Nonsense!" Mr. Ashton snorted briskly. "I want to talk to you about that. And your language. Your mother tells me that you said a naughty word, today. You said—well, there's no use beating around the bush about it—you said 'work,' didn't you?"

"Well, yes, Pop. But is that so awful bad?"

"I suppose there are worse words, son. But if you call a person a worker, that's—that's *awful*. You couldn't call him a worse name."

Riley was very direct.

"Why?" he demanded.

Mr. Ashton took his son's two chubby fists in his own large palm.

"I'll try to explain. But we'll have to go back into history a long way.

"Many years ago, when people had only the crudest kind of automeks, nearly everyone had to work. That was the word for it—work—but no one really wanted to. They really wanted to have fun, as we do, today.

"But they didn't have any automeks to raise their crops and prepare their food and make their clothes and do everything that the automeks do for us in this modern age. Certain groups of men, however, were continually working on the problem of making life easier for people. They called themselves scientists.

"Their first automeks were crude affairs and rapidly wore out. Sometimes they didn't last more than a few years. But these men kept improving them. Most of the wear, they found, was caused by a process known as corrosion and by the wearing of the parts of the machines against each other.

"Finally, they invented materials that didn't corrode or rust and they also figured out a means of keeping the parts from rubbing against each other by using what they called atmospheric bearings. So now the machines and automeks don't wear out."

"If they did wear out," Riley asked, "couldn't we make new ones?"

"No. The automeks were never set up to make themselves. And no one, now, knows how, even if there were people who would lower themselves to do that kind of—of—well, son, the word is 'work.' But don't worry. They won't wear out.

"Also, back in those days, they had what they called disease and sickness. When a person was sick it meant he didn't feel well. One group of the scientists were engaged in getting rid of disease. They finally did. That's the kind of things you learn about in the stories over the Telecast."

"Why don't we get some new stories and some new music?" Riley demanded

"Because," Mr. Ashton explained patiently, "there's no one to make them. That would be work. Besides, our people have been listening to those programs for over four hundred years. We know they're good."

"When I grow up," Riley announced after a little thought, "I'm going to make up some new ones."

"Now, listen, son," Mr. Ashton warned. "People don't do those things. And anyone who did would be considered a—a social outcast. He might even be called before the Committee and put in an Institution."

"Is the Committee like work? You said it was."

Mr. Ashton rubbed his bald spot helplessly.

"Well—certain civic responsiblities have to be taken care of. It isn't like making things with your hands."

"I still think it would be nice to be a automek," Riley said.

"Young man!" Mr. Ashton's voice took on that sternness which warned Riley he had better not say anything more. "One more word out of you and . . ."

SO RILEY didn't say anything more. But he thought a lot.

Aunt Betty came in on the World Express from London City just about dark.

She had two chins and a bad case of hysterics.

"I'm not going back," she wailed. "People are starving, absolutely starving. Things are awful. Helen," this to Mrs. Ashton, "you have no idea how lucky you are."

"Now, Betty," said Mrs. Ashton, "calm yourself, and explain what you're trying to say."

"It's the automeks," Aunt Betty moaned. "Haven't you heard? They've quit—uh—you know. They just won't go. The agricultural automeks didn't raise any crops last year. The warehouse automeks won't make any deliveries. It's the most horrible thing you ever saw. The people are being forced to leave the city."

"But, Betty, I don't understand. What's

the matter with the automeks?"

Riley squinted his large blue eyes.

"I'll bet they're wearing out."

Mrs. Ashton turned her attention momentarily to her son.

"Children should be seen, dear."

"And not heard," Riley completed the statement gravely. "But I'll bet that's just what's happening. No piece of machinery will wear forever."

Aunt Betty stared owl-eyed at her nephew.

"Where does he get such ideas? They're unbecoming to a child. Helen, surely you're not teaching him any such radical nonsense?"

"Of course not," Mrs. Ashton snapped. "Riley, you go amuse yourself."

Riley continued talking in a thoughtful voice, as if to himself.

"And if the automeks wear out, then people will have to go back to work."

Aunt Betty screamed at the *word*, and her double chins set up a quivering dance.

"*Oh!* Never in all my life!"

Mrs. Ashton took more drastic action. When young Riley had been dismissed from the room, howling with the pain of the first corporal punishment he had ever known, Mrs. Ashton tried to apologize.

"I don't know what to say, Betty. Riley never acted this way, before."

Aunt Betty sniffed.

"This younger generation. Whatever are they coming to?"

CHAPTER II

The Planet Travelers

YOUNG RILEY was right, although he didn't fully understand to what extent. The deterioration of the automeks was slow, but in certain places, especially in damp climates, they were beginning to quit.

During the years from 2866 to 2870, at least half a dozen metropolitan cities were abandoned, simply because the machinery which supported the populace ceased functioning. When the inhabitants of those cities felt the pangs of hunger they took the easiest way out.

They migrated to more fortunate cities, where the climate had not caused a breakdown in the machinery. The people began to double up in the homes, throwing an extra burden on the automeks of those areas.

No one appreciated the true significance of the migration. No one faced the fact that eventually all the machines all over the world would stop. It is doubtful that the people realized such a crisis could occur.

Only Riley, with a perception far beyond his years, seemed to have any true glimpse of the future. Or perhaps he was the only one who offered any comment on it. And he didn't very often. He found that his ideas brought him only grief at the hands of his distracted and apologetic parents. Riley definitely was not in tune with his time.

Even before he was ten years old he was known in his neighborhood as "that queer child," the one who insisted on trying to make things. He had no playmates. Mothers forbade their children to play with him. His language, they said, was vulgar. He frequently used the word "work".

His ideas of fun were intolerable and punishment seemed to have little effect on him. There was some talk of having him confined to an Institution, but since Mr. Ashton's luck with the dice was consistently bad and he was constantly on the Committee which governed such measures nothing came of the talk.

Naturally, Riley was lonely. He wanted company, but when he approached any of the neighborhood children in an effort to join their play they immediately ran away from him. As a consequence his play was solitary. Perhaps this is why, in later life, he was so easily pleased with commendatory words from the few persons who did become intimate with him.

On Riley's twelfth birthday—that would be the year 2872—he discovered the American City Museum. He came upon it suddenly, during one of his wandering trips about the city. By that time, Mr. and Mrs. Ashton had given up all efforts to control his activities since that involved an unpleasant expenditure of energy. Even Aunt Betty talked less about "our duty to the child."

Consequently Riley was left to his own devices most of the time. He investigated the city, giving particular attention to the workings of the various factories and the activities around the warehouses. It was easy enough for Riley to wander about the streets.

He had the float belt which supported his weight and locomotion from place to place was accomplished simply by tuning in

the proper loop attractor station. These attractor stations, placed at regular intervals about the city, were operated on the electromagnetic principle.

AN AUTOMEK snapped open the door to the museum, and Riley went inside. Just within the entrance, on a table, there was a book in which visitors were expected to write their names. With the electric pen provided, Riley signed his name on the plastic sheet and added the date.

He regarded the previous entries with much curiosity. Apparently, the last visitor to the museum had been there on the fifteenth of January, the previous year. He had signed himself John Ward. But before that entry there had been no signatures for well over three hundred years.

Of course, this did not necessarily mean that there had been no other visitors. It was only a rare person of the twenty-ninth century who could either read or write. Riley had learned the accomplishments as a means of passing away the lonely hours.

In the city library, where he spent much time, there were some excellent records on reading and writing. This ability was one of the things which made people regard Riley as "queer."

Riley speculated for some time as to who John Ward might be. He hadn't supposed that anyone else in American City was interested in a museum, or for that matter could write. Riley had thought, rather proudly, that he was unique in his ability. And here in front of his eyes was definite evidence that someone else could read and write.

"Must be from another city," Riley decided. "Someone who was forced to leave his home because the automeks quit working."

Dismissing John Ward from his mind he wandered down one of the halls. The first exhibit he came to was pictures of extinct insects. He read the descriptions aloud, his words echoing noisily through the lonely halls.

"The mosquito was known for hundreds of years to be a carrier of disease. Not only was it a carrier, but it was a nuisance because of its habit of sucking blood and leaving irritating welts on its host. The hum of its tiny, fast-moving wings was synonymous with discomfort. Fortunately the last of these pests was exterminated in the year two thousand three hundred and fifty-five."

The next picture and description was of a grasshopper, extinct, so the legend explained, since 2318. The grasshopper was characterized as a destroyer of crops.

"Furthermore," ran the description with unintentional irony, "the grasshopper never made provision for its future. It existed only for its own amusement."

"Hmph!" Riley said. "Just like people."

Passing along the hall, away from the insect exhibit, he came upon a number of statues in company with pictures of flying machines. These latter were similar to the giant, robot-controlled, intercity transportation vehicles of his own day.

Riley began to read the history of the men whose statues were on exhibit and found himself entranced with the accounts of the early, and for that matter the only, attempts at inter-planetary travel.

"Rufus Smith," he read, "was the first man to attempt a trip to the planet Venus. Having made three trial trips about the moon, this intrepid adventurer took off in his Smith-Wickham Rocket at noon, July ninth, two thousand one hundred and sixteen, with the intention of rocketing to Venus. According to his radio reports Smith was making excellent progress until, on the two hundred and sixty-third day of his flight, his ship apparently exploded."

THERE followed a day by day account of Rufus Smith's radio reports. Riley read the accounts avidly, his blood thrilling to the saga of adventure. When he had exhausted that report he passed on to the next account and the next.

Those were men of reckless courage and iron determination—Rufus Smith, Billy Fenton, Alexander Williams and a score of others. But not one of them returned from his adventure.

Last in this exhibit was a rocket machine in its actuality, cased in transparent plastic. The ship was a hundred and fifty feet long, with a cross-sectional diameter of forty feet. On the legend was the date 2345. He read:

"Inter-planetary rocket designed by Arthur H. Wilpinham. This ship was to carry a crew of three and was to be piloted by John Ward of American City. Mr. Ward's accidental death, while testing another ship, terminated the venture. The Wilpinham rocket was never flown.

"The last of the planet travelers," breathed

Riley reverently.

He knew why Ward was the last. The people had lost interest, they had become solely concerned with forwarding their own amusement. Riley searched for a way to get inside the plastic case. He wanted a closer view of the big flying machine, but he couldn't find any entrance.

He also noticed that the name of the flyer, John Ward, was the same as the name on the visitor's book at the museum entrance. He pondered this coincidence without coming to any conclusion. After two hours he left the exhibit and passed on to another room. And here he got the biggest thrill of his twelve years.

The room was equipped as a workshop. There were lathes and presses, saws and tools of all kinds, together with a considerable amount of raw materials. Along one wall ran a chemical laboratory, with a number of plastic molds. What was even more fascinating to young Riley Ashton was that the equipment was set out where anyone who wanted to could get at it.

He didn't know whether there were prohibitions against a person using the equipment, but after some deliberation he decided that probably no one would ever know and, if anyone did find out, wouldn't take the trouble to stop him. Riley unearthed a small library of books on the uses of the various machines and went to work.

For the next nine years he spent most of his waking hours in the museum shop. In the natural course of events he became an excellent machinist and laboratory technician.

From the books he learned to handle plastics. And from the city warehouses he took whatever raw materials he needed to supplement the stock in the museum. He made things, odds and ends, little mechanical toys and the like.

Each day, as he went to and from the workshop, he passed the insect exhibit. Each time he passed he stopped for a moment. The mosquitoes especially fascinated him. He often read the legend aloud.

". . . The hum of its tiny, fast-moving wings was synonymous with discomfort . . ."

Riley would shake his head, grin at the picture for some reason unknown even to himself and move on.

HE WAS so engrossed with his daily routine that he sometimes failed to note the events which were fast shaping up in the world around him. He did know, of course, when the automeks of the City of Paris began to fail.

It was followed by an influx of people to the cities on the American Continent. American City, itself, had more than doubled its population. The housing situation was becoming acute.

The strain on the automeks to supply the increased population with food, clothing, and other necessities was so great that Riley anticipated an early breakdown in American City. But he more or less shrugged the situation aside as being something with which he was unable to cope.

At the time of his twenty-first birthday Riley Ashton was a handsome young man. He was six feet tall, tanned of face, with a shock of unruly blond hair, set off with large blue eyes. In spite of his reputation as a non-conformist, many of the young ladies of American City found him fascinating—but at a distance. Since he was not received socially, he had no feminine company.

October 8, 2281, began as uneventfully as most days. During the previous evening, Mr. Ashton had had a meeting with the Committee, in which they had got around for the first time to a discussion of the influx of people to American City. Mr. Ashton wasn't inclined to let the findings of the Committee interfere too much with his enjoyment of life. But he did mention them at breakfast.

It appeared, Mr. Ashton reported, that some of the automeks in Boston City had quit functioning on October 6. Probably a part of the inhabitants of Boston City would migrate to American City.

Riley squinted his eyes at this announcement.

"There's not room for them here."

"No," Mr. Ashton agreed, pleasantly rubbing his bald spot. "That's what the Committee decided."

"What's the Committee going to do with them?"

"Oh, we'll just have to tell them to go somewhere else," Mr. Ashton said complacently.

"Where?"

Mr. Ashton was vague.

"Oh, somewhere."

"There's no place for them to go. They'll starve if they don't work and we've already seen, time and again, that they have no intention of—"

"Now, Riley," Mrs. Ashton interposed, "I've asked you not to use that vulgar word around home. I don't see why you insist on being so coarse."

"Because that's the only word that fits the conditions," Riley said flatly.

Mr. Ashton floated across the room and thoughtfully selected a button on the telecast panel.

"Why worry about Boston people?" he said.

Music from the American City Telecast Station flooded the room, and Mr. Ashton settled back comfortably to enjoy it. An automek removed the breakfast dishes.

CHAPTER III

Enter John Ward

RILEY drifted to the door on his float belt, about to leave the house for his daily trip to the museum, when the music was suddenly interrupted. The figure of a man appeared on the television screen. He was a rather lean, slender man, with sharp eyes, not tall, but having the appearance of wiry toughness.

"I am John Ward," the man stated abruptly. "I have interrupted the usual program you receive at this hour to bring you a message of vital importance.

"Ten days ago, the automeks of India City ceased functioning. The people of India City migrated, as has become the custom recently," he said this with sarcasm, "to Canton City. Canton City already had three times its normal population.

"They had no room to receive any more people. A riot followed. It quickly became a small but bloody war. The people of India City were thrown back into the hills in the first war this world has known in almost nine hundred years."

The figure in the screen paused briefly to pound his right fist into his open left palm.

"Think of that! The first war in almost nine hundred years. Why? Because people are hungry, because they are cold and starving. There in the hills outside Canton City they are settling down to starve to death. A third of them are dead already. Why?

"Because they don't know how to work. Because they won't work even if they are shown how. Think about that! People in this world—this pleasant, peaceful world—are dying because they won't work."

Aunt Betty had caught her breath at last.

"The *idea!*" she squealed. She turned to Mr. Ashton. "Charles, shut that dreadful man off."

Riley sprang forward.

"Wait. I want to hear what he says. If it's too shocking for you, Aunt Betty, stick your fingers in your ears."

John Ward had become persuasive.

"You are probably wondering how this affects you. Listen. The day before yesterday the automeks quit working in Boston City. There were five million people living in Boston City yesterday. Tomorrow, there won't be five hundred.

"Boston City will be dead. Those five million people will move—to Denver City, to the City of Los Angeles, and to others. A good proportion of them will come to American City—your own home.

"I understand that the Committee has agreed to refuse them admittance. If it does the lives of those people will be on your heads. If they starve it will be your fault.

"At the present time, American City can absorb its share of those people and you can continue to live as you now are living. But soon—can't tell you how soon—maybe five years or twenty-five—but soon, if you are to avert complete disaster, it will be necessary for you—and you—and you to learn how to work.

"You will be forced to work with your hands, with your brains and with what tools you will have left to you. If you refuse, if you sit idly by hoping, then starvation will fall upon the world. Starvation will be upon *us!*"

Abruptly, the figure disappeared from the screen.

"The impudence!" Aunt Betty gasped. "Charles, you are a member of the Committee. You'll have to do something about that man. Imagine! Telecasting such an outrageous statement."

"I will," Mr. Ashton promised grimly. He began punching buttons and calling the Committee members while Aunt Betty wailed on about the general state of immorality in the world and Mrs. Ashton looked vaguely disturbed.

Riley went out the door and shot rapidly down to the telecasting station. When he got there he found it deserted except for the automeks arranging the usual programs for the day. He wanted to meet John Ward. He

had a great admiration for any man who would speak out as Ward had done. But though he stayed around until the Committee arrived he saw no trace of the man who had made the telecast.

The Committee had blood in its collective eye. Riley was uncertain whether the wrath of the members was caused by the unpleasant truth they had heard or whether the various Aunt Bettys throughout the city were demanding action to stop such outrages to their delicate sensibilities. Riley wondered if he could help John Ward.

HE WENT on to the museum. But he couldn't settle down to work. The words that John Ward had spoken and the voice that he had used to make his points filled Riley with an excitement that drove everything else from his mind. He dallied around, winding an armature, moulding a few sheets of plastic, finally began to read an old chemistry book.

After a time Riley looked up. A man was standing in the door. He had no way of knowing how long the man had been standing there, but he put the book down and surveyed the newcomer, trying to hide his excitement under an air of composure. For here, he knew, he had met a kindred spirit at last.

"You're John Ward, aren't you?" Riley asked.

The little man wore the usual khaki tunic and knee length pants. It failed completely to conceal the supple development of his body. He looked strong and quick. His eyes were deep brown, not hard but continually alert. With his fingers he stroked a wispy, dark mustache. His age, Riley decided, was in the late twenties.

"You heard my telecast?" John Ward demanded. He had a way of clipping his words which made his speech jerky.

Riley nodded.

"How did it strike you?"

Riley hesitated.

"It just made the people angry."

"I know. I know. Committee's looking for me, no doubt. My ideas are shocking to the dear people. Going to tear me limb from limb. But what I'm interested in, now, is what you think."

"I think it was swell," Riley said with enthusiasm. "It's about time somebody started telling—"

"Okay, okay." John Ward interrupted. "So we're agreed."

He turned to look back down the corridor.

"All right, Sue. Come on in."

"My sister," he said. "We heard you working. Decided the museum would be the last place the Committee would look for us. Just wanted to check on you first."

"The Committee wouldn't hurt you," Riley protested. "They might put you in the Institution for a while, but they wouldn't—"

"Not worried about your Committee," John Ward said. "Not much. Committees of a dozen cities, all over the world, would like to get their hands on us. Dangerous reactionaries—that's Sue and I. Here's Sue, now. Meet Riley Ashton. Got your name from the visitor's book at the entrance."

Sue Ward smiled at Riley.

"Hello," he said.

That was all he could say. He just looked. Sue Ward was as strikingly pretty and self-possessed as her brother was quick and wiry. She wasn't a day over twenty. Her eyes were hazel and her hair was long and glossy brown. She was almost as tall as her brother.

"Want to throw in with us?" John Ward demanded.

"Sure," said Riley without taking his eyes from Sue.

Sue laughed.

"Not so fast, Mr. Ashton. You don't even know what we're doing."

"I don't even care," Riley retorted boldly, "if *you're* in it."

"And we don't know what you're doing," the girl said pointedly.

"Gosh, she's pretty!" Riley thought.

"Use your eyes, Sue," John Ward said impatiently. "Look at his work. Look at this!"

FROM the workbench he picked up a miniature automek. He pressed a button at the base of the toy and the little machine began dipping sand from one bucket and carrying it to another. John Ward set the bucket of sand behind a stack of books on the bench. The automek promptly went behind the books and reappeared with a dipperful of sand.

"Know anyone else that can make an automek?" Ward demanded. "I couldn't. You couldn't. No one in the world could except Riley. You say you don't know what he's doing. He can work. All we can do is talk. We can use a man who knows how to work. The world can use him.

"Here's the program," Ward went on in his jerky fashion. "We're making all the larger cities all over the world. Giving talks. Any place we can get into the telecasting station."

"Is that all?" Riley asked.

"What else can we do?" Ward demanded impatiently.

"I don't know. The talks just make people angry. There should be some way to make people work."

"We're trying," the girl said. "If you can think of anything better we'll try it, too."

They talked through the rest of the morning. Ward had another telecast to make in American City and then they planned to move on to Denver City. Riley promised to go along, though he wasn't certain how he could prove useful in the campaign.

At noon Riley left the museum to go to lunch, promising to bring something back for Ward and Sue.

He found the house in an uproar. Aunt Betty was crying and wringing her hands. Mrs. Ashton was floating around the room with a bewildered look on her face. And Mr. Ashton was frantically punching buttons on the automek control panel.

"What's wrong?" Riley asked.

"Everything," Mr. Ashton snapped. "We can't get anything to eat."

Apparently the autometks which delivered the prepared meals from the neighborhood kitchen had quit functioning. There were five thousand neighborhood kitchens in American City to supply a population which was now in excess of twelve million persons. It appeared that only the autometks of the one kitchen were not working. Riley suggested that they go out after food.

"No indeed," Mrs. Ashton said with rare positiveness. "What would the neighbors think?"

"What difference does it make what the neighbors think?" Riley demanded half-angrily. "Would you rather starve to death than do anything to remedy the situation?"

"We'll just have to move to another neighborhood," Mrs. Ashton decided.

Aunt Betty brightened immediately.

"Let's do that."

Riley laughed shortly.

"They'll probably throw you out, just as the Committee's planning to do with the people from Boston City."

"Oh, we've decided not to throw them out this time," Mr. Ashton interposed. "We've decided it's our duty to share whatever we have."

RILEY slammed out of the house. The attitude his parents were taking didn't make sense to him. It was clear that they and Aunt Betty preferred to stay at home and be hungry rather than go to one of the neighborhood kitchens after food.

Independent as Riley was, himself, he couldn't understand how popular opinion could be so strong. But he didn't underestimate its strength.

He went to the neighborhood kitchen. Not only had the automek delivery broken down, but apparently the automek cooks also had stopped. Nothing had been cooked. Riley gathered up three raw steaks, a head of lettuce, and a few other odds and ends. He carried them down to the museum.

"Can you cook?" he asked Sue Ward.

Sue looked doubtful.

"The kitchen broke down," Riley explained. "If we want to eat, we're going to have to cook."

"I can try," said Sue, even more doubtfully. "But I'll need a cooking unit of some kind."

"Okay." Riley took a length of wire, fastened it in the lathe chuck and wound it in a long spiral. He coiled the spiral on a metal plate, and attached the wire to a power source. In a couple of minutes he had a makeshift hot plate.

Riley thought it was the best meal he had ever eaten, even if the steaks were a bit charred around the edges and underdone in the middle. Perhaps the fact that Sue was the cook had a lot to do with his appreciation of the food.

"Do you want me to fix something to take to your parents?" Sue asked.

Riley squinted his blue eyes.

"It won't hurt them to miss a meal. I'm going down and try to repair those autometks. All that's wrong, I think, is that the main power unit broke down."

In his diagnosis Riley was correct. With Ward's help, incompetent as the little man was at things mechanical, he managed to repair the power unit during the afternoon so that by evening the kitchen again was operating at full efficiency.

"What I ought to do," said Riley, feeling a bit of pride in his repair work, "is to go around from city to city and fix up all the broken down machinery."

John Ward snorted his disgust at the suggestion.

"Never traveled, have you?"

"No," Riley admitted, "but I guess I could travel a little."

Ward waved his hand impatiently.

"Not what I mean. You've no idea how big the world is. There are ten thousand major cities today. No telling how many smaller ones. Suppose you spent ten days in each city—well, figure it out for yourself."

"I see," said Riley in a small voice.

"Got to make them work," John Ward said. "Got to teach them to work."

"And the big question," Sue added, "is how."

"But if people won't work in the face of utter disaster," Riley argued, "how can we persuade them just by talking?"

"We can keep trying," Sue answered.

CHAPTER IV

"I'm Your Mechanic"

ON THE following morning, Riley went to the telecasting station ahead of Ward to be certain that no one was there. It was just possible, the little man told him, that some of the Committee members might be waiting to catch their unwanted speaker.

In Wales City, once, Ward had been caught and locked up in an Institution for eighteen months before he managed to escape. He didn't want that to happen again, especially now that Sue was working with him.

Riley reported that the telecasting station was deserted, and Ward made his talk. It was similar to the one he had made the previous day and unquestionably had the same effect. While they were returning to the museum, they encountered two Committee members, Mr. Jackson and Mr. Waine.

"Pretend you don't see them," Ward cautioned. "If they stop us we'll have to fight." He said scornfully, "They don't even know how to fight."

"I don't either," Riley admitted.

Ward stroked his little mustache.

"Suppose you don't, at that. My father taught me. Handed down from generation to generation, you see. Look. No, don't look, now. They're watching us.

"Double up your fist, and if they say anything take the guy on the left. Wallop him on the chin, then in the stomach, then on the button again. He won't know how to hit back."

Mr. Waine hailed them at that moment.

"Good morning, Riley. I suppose you, also, are looking for that scoundrel, John Ward. You and your companion."

He peered uncertainly at Ward.

"Why—uh—*you* are John Ward, aren't you? Young man," he said, puffing out his chest, "I must inform you that our citizens are very distressed at the uncouth telecasts you are making. Very distressed, sir. It is my painful duty to apprehend you.

"And you, Riley Ashton, should be ashamed of yourself, consorting with such a character. Your father will be very put out, Riley. I shall report you to the Committee for such action as they deem necessary."

"You take the windbag," Ward said to Riley. "He's the smaller."

Riley doubled up his fists and, with his heart pounding wildly, approached Mr. Waine. As he moved forward he heard the sudden splat of Ward's fist on Mr. Jackson's chin. Then Riley struck the first blow of his life. Deliberately and with malice aforethought he walloped Mr. Waine on the button.

The crunch of his fist against Mr. Waine's chin filled Riley with a wonderful sense of delight. He lowered his arm and punched awkwardly at Mr. Waine's middle. Mr. Waine doubled up with a grunt which, for some funny reason, was like music in Riley's ears.

He drew back his right arm, crouching until his fist was almost at his heel, and swung a roundhouse blow to Mr. Waine's chin. Mr. Waine suddenly buckled at the knees and dropped to a horizontal position, supported only by his float belt.

"Say, Riley, lad," John Ward chuckled, "you're coming right along."

"Did I do all right?" Riley asked panting with excitement.

"Pretty good for an amateur," Ward said judiciously. "Need a little polish. I'll teach you that. Now we'd better get going."

JOHN WARD kept his promise. That evening he gave Riley the first of a series of lessons in the science of fighting, lessons that they planned to continue while they toured the world lecturing on the necessity of work. If it hadn't been for Riley's

idea, they would have made that world tour.

"I've been thinking," Riley said, while they rested from the boxing lesson. "I've decided that it's going to take something besides a major disaster like starvation to convince people that they're going to have to work."

Ward was gently sarcastic.

"Brilliant deduction."

"What is it you're thinking?" Sue asked. She had been acting as appreciative audience for the sparring bout.

"They need some constant irritant, some little something to keep them moving. I don't know whether it would work, but come with me and I'll show you what I mean."

Riley led the way through the museum halls to the insect exhibit. He stopped in front of the mosquito picture and read aloud:

". . . The hum of its tiny, fast-moving wings was synonymous with discomfort . . ."

Ward plucked at his mustache.

"So?"

"What we need," Riley said, squinting his blue eyes thoughtfully, "are some mosquitoes."

Sue began laughing. Laughter came easily to her. And Ward responded with his usual sarcastic chuckle.

"Turn them loose on an unsuspecting world? Riley, I don't know whether you're a nut or a genius. But it might work."

"I just remembered," Riley said with sudden gloom. "There aren't any mosquitoes. The last one died over five hundred years ago."

"That's so." Ward took fifteen or twenty steps along the hall, pulling abstractedly at his little mustache.

"Always wanted to do an adventure," he said, half to himself. "Something really new and big." He seemed to come to some inner conclusion. "See here, Riley, lad. Don't know about mosquitoes, but think I know where we can get some insects that might do. Only there's a very, very excellent chance we'd never get back."

"What do you mean?"

Ward motioned with his thumb. Riley and Sue followed him down to the flying machine exhibit. He stopped in front of the Wilpinham Rocket.

"See that name on the card—John Ward? One of our great, great, ever-so-great grandfathers. Planned to fly that machine to Venus. Got killed testing another rocket. They never flew the ship."

"What's that got to do with mosquitoes?"

"The old man wrote a book on Venus. What he expected to find there. Climate hot and mucky—nasty. Full of disease, insects and what-not. If there's any place where we might find mosquitoes, it's Venus.

"There's the ship. You're the mechanic—I'm the pilot. Mosquitoes or not, the adventure should be worth the price. What do you say, Riley, lad?"

Riley took a deep breath. There was fire in the depths of his blue eyes.

"I'm your mechanic," he said.

SUE WARD tossed her long brown hair. "You don't need to think you're going to leave me behind."

"Of course not," Riley said promptly.

Ward teased her.

"We'll take you along as cook, Sue. If we can find a cook book. After those steaks, I know you need some practise."

Sue began strapping on her float belt.

"I'll go over to the library now, after a cook book."

"Get some books on medicine," Ward suggested. "We'll need medicine if there's disease on Venus. And some books on navigation."

For nine months the three labored on the preparations for the trip. Riley cut his way through the plastic cage surrounding the big ship, tore it down piece by piece and rebuilt it. When he was through he was satisfied that he knew the workings of the jet engines, the oxygen equipment, the generators, the controls and all other parts of the ship.

From a book on aeronautics he designed and rigged a training device in which all three spent many hours under simulated flying conditions, learning to handle the controls. While most of the actual flying would be done by an automek pilot, it was important that they know how to handle the ship during take-off and landing and for emergency purposes.

As a part of their education John Ward insisted that they all become familiar with the use of weapons. From one of the museum exhibits he took seven guns, handling explosive atomic charges, and they spent an hour each day firing the weapons at improvised targets.

"No telling what we'll find on Venus," Ward said grimly. "If we get there."

It hurt the little man's vanity that Sue developed into a better shot than he did. Riley didn't care. He was much too fascinated by the ship and its intricate workings to worry about who could handle the guns the best. In fact, he was a little proud of the facility that Sue developed. And as a cook, he told her that she was better than the automeks.

Food was a problem. It was straining the resources of the city to supply the population with enough to eat, but eventually they managed to obtain sufficient staples for the trip. They estimated they would be gone two years.

On the other hand, fuel was easy to get. A half dozen trips by Riley and Ward to the World Express Station provided them with a thousand oxy-hydro bricks, which they stacked in the fuel compartment of the ship. These bricks vaporized at a temperature of one hundred twenty-five degrees, Centigrade, and the vapors were exploded under pressure.

On a moonless night, July 16, 2882, the preparations were complete. Riley and Ward, working from float belts, burned out the museum ceiling over the Wilpinham Rocket. They fastened seventy belts to the ship, bow and stern, and coupled them magnetically to the ship's batteries.

Ward took the pilot's seat, Riley stood by the engines and Sue rounded out the crew of three.

"Let 'er go," Ward ordered softly.

Riley threw the switch to the batteries and the hundred and fifty feet of ship began rising slowly through the hole in the ceiling, floated by the belts. Straight up, a thousand feet in the air, it rose.

"Heat the engines," Ward ordered.

Riley snapped the heater shut on an oxy-hydro brick and turned on the electric unit. With his eye glued to the gauge he watched the temperature rise to one hundred twenty-five degrees. The pressure of the gases increased rapidly.

"She's heated," Riley yelled.

John Ward opened the throttle. The Wilpinham Rocket lurched slightly and began to move. Ward's fingers gingerly touched the controls again, and the Rocket blasted away through the starlit night into the stratosphere.

Riley grabbed Sue's hand and danced a couple of steps.

"We're off!"

Ward glanced around with a brief, sardonic grin.

"Better get busy with your navigation. And Sue, you start cooking. I'm hungry already."

CHAPTER V

The Cycle of Progress

RILEY ASHTON'S journal, which is now preserved in the archives of the American City Museum, is a comprehensive and eloquent account of this pioneer trip to Venus.

In one place he wrote, "There is little doubt that ours was the first space ship to land on this planet." He was probably referring to the earlier attempts by Rufus Smith, Billy Fenton, and others to reach Venus.

And again, "It rains most of the time, varying in intensity from what is scarcely more than a mist to torrential outbursts. During the latter it is impossible to travel, because of poor visibility.

"Even in the brief intervals when there is no precipitation it is difficult to see more than a few hundred feet because the only light we have is that which is filtered through the dense clouds perpetually blanketing the planet. We live in a continual semi-twilight."

On the sixth day (earth time) after they landed on Venus, he recorded with elation, "We have found our mosquitoes. Or perhaps it is better to say that they found us. The rains ceased for several hours, and we were thus enabled to penetrate the jungle for some miles beyond our former exploratory trips.

"John, as usual, was leading with Sue behind him and I brought up the rear. We came out into a large, swampy clearing. The water was covered by a steaming grayish scum. By this time we were wading up to our knees.

"Almost immediately after we entered the swamp, swarm upon swarm of winged insects, millions of them, rose from the scum and attacked us. The hum of their wings was very audible. They settled over us like a winged blanket and began drilling with their vicious, little, needle-like mouths.

"I struck out at them futilely. At the same time I was filled with a great sense

of elation. These insects were what we had come to Venus to catch.

"John stumbled and splashed to my side. His face was already beginning to swell from the numerous bites.

" 'Ought to get out of here,' he said. 'Come back when we're better prepared.' "

"We retreated through the rank jungle. The vicious little insects followed us for several hundred yards before we were released from their torture.

"Strictly speaking, they are not the same insect which was known as a mosquito on Earth and which is now extinct, but I should think they would serve my purpose admirably. I feel certain that they are much more vicious than any real mosquito ever was."

Riley also relates in his journal how Sue Ward was stricken with fever, unquestionably brought on by the poison injected by the mosquito-like insects. Fortunately by that time they had collected about as many of the insects as they could take care of, and began immediate preparations for their return to the earth.

Riley wrote in his journal that he was certain Sue would not live unless they could get her away from the fetid Venusian climate. She was desperately ill.

"It was then," he stated naively, "that I learned how much I truly loved Sue Ward—how much she meant to me. I felt that if she were to die nothing else would ever matter to me again."

BUT when they were ready to take off he discovered that the linings on two of the port tubes were burned out. Matter-of-factly he told how he worked for sixty-eight hours without sleep repairing the damaged tubes.

Once they were again under way, Riley divided his time between handling the engines, nursing Sue and caring for his insects. Within a week the girl was well on the way to recovery from her fever. As for the insects, they thrived on Riley's attention. He kept them well fed and watered, and over the cages he placed a high frequency oscillator, showering them with the vibrations.

"To kill the disease germs," he explained to Ward. "It won't hurt my little pets and it won't keep them from biting as viciously as ever."

February 4, 2884, is a memorable date. On that day, Riley Ashton released insect pests on an indolent world that had not known such things for hundreds of years. Before they landed Ward cruised the Rocket over the American continent.

Riley turned loose well over a million of the mosquito-like insects to breed and bite and make a nuisance of themselves. He turned loose an extra load over American City, and kept out a few dozen for experimental purposes. These he put in a box when he slipped inside his tunic.

Ward carefully lowered the ship once again into its berth in the American City Museum.

"I didn't get to see nearly enough of Venus," he said thoughtfully. He fingered his mustache and watched Riley with a curious expression in his eyes. Then, he blurted out, "I'm going back. Are you going with me?"

"Why, of course," Riley said in surprise. "That's what I've been planning, just as soon as we can make some revisions in our equipment. We didn't even start in to examine that planet. First, I've got to go home to see my folks. When I get back we'll commence our preparations for the next trip."

While he was strapping on his float belt Sue was watching him. Abruptly he leaned over and kissed her.

"And another thing. Before we go back," he continued, "you and I are going to get married."

Before Sue could say anything he was gone down the hall and out the door.

"Well—he didn't even wait for my answer," the girl said.

John Ward laughed.

"Didn't need to, the way you kissed him. He's a great guy."

Mr. Ashton, Mrs. Ashton, and Aunt Betty were listening to some music by the American City Telecasting Station when Riley entered the door. He yelled to announce his arrival and grabbed his mother about the waist.

"Sh!" Mr. Ashton said. "This is an excellent program."

AUNT BETTY'S double chins quivered. "Riley, you should show more consideration for others. You make so much noise. Children, these days," Aunt Betty complained, "don't have the proper respect for their elders."

"Don't you realize that I've been gone for nearly two years?" Riley shouted, setting

his mother down.

Mrs. Ashton smoothed her hair.

"So you have. Did you enjoy yourself, dear?"

Riley stood in the middle of the room and yelled.

"I've been to Venus."

"Riley," said Mr. Ashton sternly, "do you have to shout so loud?"

"Venus? *Venus?*" Aunt Betty shook her head. "I don't think I've been there." She remained a few seconds in thought and then looked up brightly. "Have the automeks in Venus City quit?"

Riley didn't answer. He went to the other side of the room, where his movements couldn't be seen, and took the box of insects from his tunic. He opened the box, watched them hum merrily out and then sat back to await developments.

After a moment Aunt Betty waved her hand briskly in front of her eyes. A moment later, Mr. Ashton slapped viciously at the top of his bald head.

"Drat!" he said.

Mrs. Ashton stared at the buzzing little pests.

"What are those things?"

"Some pets I brought back from Venus," Riley said.

"If they have those things there," commented Aunt Betty, waving her hand futilely, "I'm never going to Venus."

Mrs. Ashton looked pitifully at Riley.

"Riley, how could you?"

An insect was drilling a hole in Aunt Betty's elbow. As she watched it two big tears began to trickle down her fat cheeks. Finally she could endure the drilling no longer and she made a half-hearted and wholly ineffectual swat at the insect.

"Drat!" Mr. Ashton slapped his bald head once more, but missed his tormentor.

For fully thirty minutes the music of the telecast was punctuated by the steadily increasing number of slaps, each one of which was more violent than the preceding one. Riley sat and waited patiently.

"They're hard to hit," said Mr. Ashton at last.

He managed to stand it for another ten minutes and then abruptly switched on his float belt and disappeared from the room. From the rear of the house came a great pounding and ripping, and an occasional vehement, "Drat!"

This continued for nearly an hour. When he returned to the room he was carrying in his hand a makeshift swatter, with which he began pursuing the insects about the room. Finally, he caught and killed one.

"There!" said Mr. Ashton with a satisfied smirk. "I guess that's the way to fix them." He held up his swatter proudly for all to see.

To Riley's knowledge the swatter was the first thing Mr. Ashton had made during his entire life. It was a triumph for Riley.

The television screen glowed. In it appeared the images of a number of the Committee members, including Mr. Waine. Mr. Ashton paused in his complacent contemplation of the swatter.

"We're not supposed to have a Committee meeting today."

MR. WAINE made an awkward slap at something on his leg before answering.

"Special meeting, Charley," he said grimly. "Something came up."

"What?"

Mr. Waine slapped again.

"These—these things, whatever they are. They're eating us alive."

"Oh!" Mr. Ashton beamed suddenly, and held up his swatter. "You need one of these. I'll show you."

He began to chase one of the mosquito-like insects around the room, while the Committee members watched in bewilderment. Finally Mr. Ashton caught and killed another insect.

"There!" he cried triumphantly. "See. That's the way to fix them."

"Where did you get that gadget?" Mr. Waine asked.

"Made it."

"You *made* it?"

Mr. Ashton glowed at the tone of Mr. Waine's exclamation. He held up the swatter again.

"I made it," he repeated and added confidingly, "it was fun. You can really smack 'em down with this."

"How long did it take you to make it?" asked one of the other members.

"It didn't take long," Mr. Ashton said with even more satisfaction. "Not even an hour, did it?" He appealed to Mrs. Ashton.

"Will you make one for me?" Mr. Waine pleaded.

"And me. And me," the other members echoed.

Mr. Ashton hesitated.

"Well, I—I don't know."

Riley interrupted in a low voice.

"Make a trade with them."

"A trade?"

"Sure. You don't like being on the Committee, do you?"

"Oh!" Mr. Ashton understood suddenly. He turned to the television screen. "Tell you what, Waine. You arrange it so I don't have to serve on the Committee and I'll make one for you."

Mr. Waine was electrified by inspiration. He held up his hand for silence.

"I've just thought of something," he announced importantly. "Everyone's going to need one of those things, what with these—these—" he waved his hand helplessly, at a loss for a word to describe the mosquito-like insects. "Anyway, everyone's going to want one. Let's all make them and trade them to the other citizens. Then, won't any of us have to be on the Committee."

"Excellent. A splendid idea," Mr. Ashton chortled. And the other members echoed, "Excellent. Splendid."

"I invented it," Mr. Ashton said. "I'll run the organization. We'll call it—let's see—we'll call it the Ashton Swatter Company. ASC for short."

"Excellent," said the members. "Splendid."

RILEY got up and stretched slowly. He could see that the cycle of progress could be made to swing once again toward a workaday world. A new company, made up of human members, had been established.

They would be making something which no automek had been set up to make. There would be other companies formed once other people got the idea. Here was something they could trade for something they wanted. Trading and then business would sweep the world again.

Mrs. Ashton stopped laughing long enough to look at her son.

"Going somewhere, Riley?"

"Yes," said Riley. I've got a date on Venus. What the world needs is about ten billion more mosquitoes or a reasonable facsimile thereof."

SLAVES OF THE GLASS MOUNTAIN!

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WAY OF THE GODS

By HENRY KUTTNER

FEATURED NEXT ISSUE!

As Maxted caught sight of the thin, foxlike face staring in through the window, he turned and rushed outside

SWEET MYSTERY OF LIFE

By JOHN RUSSELL FEARN

The lovely plant-girl who blossomed in the greenhouse of Harvey Maxted was an enigma that no human could fathom!

TO IDIOT JAKE the world was peaceful: it was devoid of all worries, tumults, and fears. To the intellectuals, Idiot Jake was an object of pity—to the harassed he was a man to be envied. His simple mind did not know the meaning of anxiety.

So long as he could sit on the parapet of the small stone bridge spanning the Bollin Brook he was satisfied. If he had any old paper which he could tear into fragments and toss into the gurgling water below it was to him a close approach to paradise.

The small English village where he lived with his hard-working widowed mother was serenely sleepy on this autumn Sunday

morning. The sunlight gleamed on thatched roofs still damp from departed frost. Smoke curled lazily from crazy little chimneys into a placid blue sky.

On the bridge over the brook Idiot Jake sat in his patched overalls and tattered Panama hat. He was long and spare with a narrow face and cramped shoulders. Only in the receding chin and loosely controlled mouth was the evidence of his mental deficiency to be seen. Surprisingly enough his eyes were very sharp and very blue.

Absently he looked into the flowing water coursing below him and wished that he had some paper fragments to throw into it. Somehow, though, it was too much effort to go and search for them.

A half-mile from the village center, on its extreme outskirts, and well screened by dense beech trees, stood the home of Harvey Maxted. Nobody in Bollin village knew exactly how Maxted occupied himself. He seemed too young to be a hermit, too thoroughly sane and genial to be an inventor, so tongues wagged, as they always do in a little hamlet perched on the edge of the world.

Actually Maxted was by no means mysterious. He had quite a good Civil Service post in London to which he traveled back and forth every day. If he chose to live in the quaint old house bequeathed to him by his parents, it was entirely his own affair, and if he had decided to live alone except for a fifty-year old man servant named Belling that too was nobody's business but his own.

He lived alone for a reason, of course—to have a quiet spot where he could pursue botanical experiments unhindered. Flowers, products of the most brilliant grafting processes, bloomed in every part of the great conservatories attached to the house. Even an old glass-walled, glass-roofed annex which had once been his artist father's studio had now been converted into a horticulturist's paradise. Apart from the flowers it also boasted all manner of technical apparatus.

HARVEY MAXTED, thirty-eight years old, with plenty of money and a keen investigative brain, had one ambition—to produce that much sought after botanical miracle—a jet black rose. . . .

On this particular Sunday morning he stood before a framed area of soil and fertilizer set directly in the rays of the hot September sun streaming through the glass wall. His young, good-looking face was tense. Dark untidy hair tumbled in waves about his forehead.

In some odd way his strong masculine figure seemed out of keeping amidst the exquisite botanical creations looming all around him.

Going down on his knees he went to work steadily in the special area, putting a slender cutting deep in the prepared soil and pressing down with his thumbs all around it. For half an hour he stayed at his task. Then thankful for relief from the intense heat of the window, he left the conservatory and wandered into the house, meditating as he went.

Belling, his servant and confidant, was crossing the hall at the same time.

"Do you think you'll be successful this time, sir?" he inquired, pausing.

Harvey Maxted smiled ruefully. "All I can say is that I ought to be. But after eighteen failures in trying to produce Erebus, the black rose, I'm losing some of my confidence. In fact I'm probably crazy to try it anyway. Pride, Belling. That is what it amounts to. I want to feel that I am able to accomplish the impossible."

"And you will, sir," the older man declared, nodding his gray head reassuringly. "You see if you don't."

"Maybe you're right."

Maxted reflected for a moment.

"I'm going out for an hour or two," he added. "See that the conservatory doors are kept locked."

"You can rely on it, sir."

It was late evening when Maxted returned home. He ate a belated dinner leisurely, read for an hour, then went into the conservatory annex for a final look at his rose cutting before retiring. But the moment he reached that frame of soil and fertilizer he stopped in dismay.

The cutting had withered completely. It lay limp and yellow with every trace of life drained out of it!

For a moment or two Maxted could not believe his eyesight. Then he twirled round and shouted angrily for Belling. Within a moment or two the elderly man servant came hurrying in.

"Something the matter, sir?" he asked in surprise.

"I'll say there is! Did you follow out my instructions and keep these doors locked while I was away?"

"Of course I did, sir." Belling was genuinely distressed. "I know how valuable every-

thing is in here."

"You didn't open any of the windows or ventilators from the outside?" Maxted caught himself and grinned apologetically, patted the man's arm.

"Sorry, Belling! That was unfair of me. But it's so blasted strange for that cutting to die like this! It means the end of twelve months careful grafting."

Belling considered for a moment. "Perhaps the heat, sir?"

"Not in this case: the heat was an essential part of the experiment."

Maxted leaned over the frame and lifted the dead cutting between finger and thumb.

"Just as though some other plant had claimed the soil and taken the nature out of it," he muttered. "In the same way that cultivated plants have a struggle to live near sturdier trees."

There was a puzzled silence for a moment or two. Then Maxted stood straight again and sighed heavily.

"I simply don't understand it, that's all. I know this soil to be chemically pure. I'll have to sleep on the problem, Belling, and when I come home from town tomorrow night I'll take a careful look at this soil."

All next day, as he pursued his normal occupation in the city, Maxted could not help himself thinking about his dead rose cutting. Even a keen gardener might have been baffled by the occurrence, but with Harvey Maxted it was something much more. He was a botanical scientist, understanding mysteries of the plant world not even known in the ordinary way. . . . Yes, something was decidedly wrong and nothing else but an analysis of the soil could show what it was.

THAT evening Maxted wasted no time in getting home and even less time on a meal. Then he unlocked the research conservatory and hurried in, switching on the powerful floodlamps.

The rose cutting had shriveled now into a mere piece of brown stick but, in its place, something *else* was showing, just peeping above the rich black soil. Maxted stared at it fixedly. It looked just like the smooth, fleshy head of a toadstool, perhaps an inch across, yet it was more bulbous.

Very cautiously he touched it and to his amazement it jerked away slightly from his hand, as though with nervous reflex action!

"What the devil!" Maxted was dumbfounded for a moment. Soon he swung round.

"Belling!" he bawled. "Belling, come here!"

Belling came, his tired face troubled. In a moment he assessed the incredulity on Maxted's face.

"Something gone wrong, sir?" he asked anxiously.

"I'll be hanged if I know—unless it is that I've worked so long among these plants I've started seeing things. Take a look at that thing where the rose cutting was. Tell me what you think it is. It—it recoils like the head of a tortoise when you touch it!"

Belling's lined mouth gaped for a moment as he realized the immense implication behind the assertion. He stretched out a bony finger and tapped the fleshy looking nodule. Again it jerked and the soil around it shifted infinitesimally.

"Great scott!" he whispered, his eyes wide. "It's alive, sir! Definitely alive! But what *is* it?"

"I don't know," Maxted confessed in worried tones. "I wanted to produce a rare specimen and it looks as though I've done it."

His first shock over, Belling's mature common-sense came to his aid. Stooping, he looked at the nodule intently in the bright light. Presently he glanced up with the oddest expression.

"I think we should examine this under the microscope, sir," he said. "Silly though it may sound, I believe I can see the outline of a—a *face!*"

"A what!" Maxted ejaculated, startled. "Hang it all, man!"

"The microscope should settle the argument, sir."

Maxted rubbed the back of his head in a bemused fashion. Finally he turned and went over to the bench.

Bringing back the heavy binocular microscope he succeeded finally in balancing it so that he could train the lenses directly on the object in the frame.

Wondering vaguely what he would see he adjusted the eyepieces. Inwardly he was prepared for the unusual, the fantastic—for anything, indeed, except the monstrous impossibility of what he *did* see.

For there was a face!

Belling had spoken the truth. Under the powerful lenses and brilliant light everything was in pin-sharp detail. The rounded nodule had now become a completely hairless head. Underneath it were perfectly chiseled features—a long straight nose, tightly closed lips, and round chin. The eyelids were lowered at the moment, giving the face a masklike aspect of deathlike serenity.

"Well, sir?"

Belling's eager voice compelled Maxted to drag his gaze from the fascinating vision. He motioned helplessly to the microscope and Belling peered long and hard. When at last he withdrew his eyes he and Maxted were two men facing the unbelievable.

"A plant—shaped like a human being—growing in soil. . . ."

Maxted uttered the words in jerks. "It's utterly without precedent, either in botany or biology. There has to be a *reason* for this, Belling, something to make us realize that we are not insane."

"We can't both be insane, sir."

"No, I suppose not. This—It. Is it male or female?"

"Can't tell very well, sir . . . yet."

They looked again at the nodule and it seemed to both of them that there was a constant suggestion of growth about it. It was enlarging even as they watched.

"Belling!" Maxted gripped his servant's arm tightly, his face drawn with the effort of trying to understand. "Belling, we've stumbled on something infinitely more amazing than a black rose! We've got to watch what happens. Best thing we can do is stay in here and sleep in turns."

"Yes, sir," Belling agreed excitedly. "Indeed, yes!"

The decision arrived at they drew up chairs and then seated themselves where they could watch the enigma in the frame. The fact remained that the thing was certainly growing But into *what*? . . .

MAXTED and Belling soon discovered that their vigil was not to be a matter of hours, or even of days—but of three weeks.

During this period the conservatory was kept electrically at the same high temperature as on the morning when the rose cutting had been planted. When he had to be absent at his Civil Service work in London Maxted held down his emotions as much as possible, but all the time his thoughts were carrying the remembrance of what he had seen in the conservatory so far.

Then, the moment time permitted, he was rushing homeward again, bolted a meal while Belling related the day's progress; then they went together to survey the miracle's advancement.

The former nodule in the experimental frame had now become an obviously human creature standing alone in a special bed of soil and surrounded by plants which screened any chance draft.

The sex was definitely female, down to the waist. From this point, however, the trunk of the body branched off into myriad gray filigrees which, in the fashion of nerves, trailed along and sank into the soil.

A woman, yes—or a half-woman—her nakedness concealed by an Oriental dressing gown as a concession to convention. A woman, yes, indescribably magnetic with her now opened enormous green eyes and masses of Albino-blond hair on the formerly bald scalp. A woman who thrived on fertilizers, humanly poisonous material, and crushed bone residue. A woman the pupils of whose eyes contracted and expanded with startling rapidity at the least variation of light.

Mysterious. Incredible.

So far the woman had made no attempt to communicate. In fact no sound whatever had escaped her. She seemed able to take nourishment either by the mouth or through the weird mass of sensory nerves trailing from her like roots. At other times her eyes were closed and her body relaxed as though she were sleeping.

"Have you any theories, sir, as to what happened to cause this?" Belling asked, when they had finished their latest survey.

"One—just one," Maxted breathed. "It can explain this, but it is so incredible I hardly believe it myself. Do you know Arrhenius' theory?"

Belling reflected. He had a good smattering of general knowledge.

"You mean the one about him believing that life came to Earth through indestructible spores surviving the cold of space and then germinating here?"

"That's the one." Maxted mopped his streaming face and glanced at the thermometer. It stood at one hundred twenty degrees Fahrenheit.

"It may be possible," Maxted went on, "that somehow a wandering spore was in the soil when I planted that rose cutting. The cutting died because of the strength of the germinating spore drawing all the nature out of the soil. In this conservatory here we must have accidentally reproduced all the conditions necessary to germinate the spore."

Maxted looked at the silent woman-plant long and earnestly as she slept, head drooping on her breast.

"Yes, I'm sure I'm right," he resumed. "Life in any other world would be vastly different from ours. This half-woman must belong to a world where intelligent life takes

on the form of a plant. A hot, burning world. . . . Where, Belling? What miracle have we come upon?"

To this there was no immediate answer. Both men kept unceasing watch on the astounding creation in the nights and days which followed.

She grew no taller, but there was greater development in the shoulders as time passed. Once, even, she seemed ill and wilting, but a saturation of the soil with water and phosphates revived her.

During this period she remained practically motionless, her eyes studying the conservatory intently, or else the two men as they surveyed her. It was as though she were trying to determine the nature of her surroundings. When she moved at all it comprized a sinuous writhing of her well rounded arms, as though she yearned to stretch herself. . . .

THEN one morning, when the autumn sun was streaming through the great windows, she made the first sound. It began at about the pitch of a soprano's high C and then sailed up effortlessly through two octaves in the purest bell-like clearness it had ever been Belling's good luck to hear. Immediately he rushed out for Maxted, who was sleeping after his night's watch.

"She's singing, sir!" Belling shouted, as he blundered into the bedroom.

Maxted listened drowsily to the silver purity of those notes, then he hurried out of bed and dragged on some clothes. The astounding woman was singing with the joyous abandon of a nightingale when they burst in upon her. In fact their entry was perhaps too sudden for she stopped abruptly.

"Shut the door!" Maxted ordered. "We can't risk any cold air in here."

He went over to the woman slowly, stared into her huge green eyes. The pupils, so abysmally wide in artificial light, were now contracted to pinpoints in the glare of sunshine, leaving great emerald-colored irises.

"Who are you?" Maxted asked, in an awed voice, repeating a question he had asked dozens of times already. "How did you ever get here?"

The eyes like those of a tigress stared back at him hypnotically. He realized that such delicately constructed orbs were intended for a planet of alternate glare and total dark.

Venus? Blinding sun for 720 hours; moonless night for a like period. A world of titanic vegetation perhaps—and of such people as this?

Maxted gave himself a little shake and turned his gaze away by sheer physical effort. Belling was beside him, watching and wondering.

"Have you—a language?" Belling asked urgently.

The woman gestured with two copper-colored arms, and somehow it revealed that she did not understand. Then from her cherry red mouth with its oddly pointed teeth came a stream of sing-song notes in that breath-taking purity of tone.

"Speech, sir!" Belling insisted urgently, clutching Maxted's arm. "That's what it is. She's trying to talk to us."

"Yes." Maxted listened to her in bewildered attention. "Yes—speech."

Even so it was but the commencement of weeks of hard work to come, of the exchange of words. But gradually the woman began to understand what was meant. By means of pantomine and untiring patience Maxted struggled to bridge the gap between species. In the intervals between these spells of study the woman either sang gloriously, or slept. Those times when he had to be away on business were the hardest for Maxted, but somehow he got through them. . . .

Inevitably, though, the conservatory's secret did not remain within those hot glass walls. Seated on the bridge parapet one morning, tearing up a piece of paper and watching the strips flutter into the brook below, was Idiot Jake. He heard a voice of uncommon range and clarity floating from somewhere beyond the village, borne on the south wind.

Its beauteous harmony attracted him—drew him irresistibly.

He traced it finally to the conservatory, where a slightly open ventilator permitted the sound to come forth. Idiot Jake could see quite clearly through the plain glass windows, and he started a rumor which went through the clannish, scandal-loving community of the village with seven-league boots.

Harvey Maxted, the mystery man, the apparent misogamist, had got an ash-blond woman living with him! Been no announcement of a marriage or anything, either. Jake himself had seen her, both in the day and at night. She always sat in that little outbuilt conservatory, singing or talking and dressed in a sort of Oriental costume.

That she was only half a woman was not apparent to the prying busybodies of Bollin. The shrubs surrounding the special soil bed

hid the filigree of nervous tendrils which began at the waist-line. From outside it looked as though she were sitting down among the plants.

IN GROUPS, by night, the denizens of the village crept into the grounds of the house and looked through the unscreened windows onto the scene within. They said it was not even decent and Maxted ought to be locked up for it, and his servant with him.

Then, gradually, they tired of their scandal and ceased to bother.

All except Idiot Jake. Though he no longer risked detection by hiding in the grounds in the daylight, he was certainly there every night, his crafty pale blue eyes watching over the thick bushes, his warped brain considering all manner of speculations about the terribly lovely woman who either sat and gestured, or else sang with a richness which stirred Idiot Jake to the depths.

Absorbed in their efforts to communicate with the plant-woman, Maxted and Belling never even gave eavesdropping a thought. That the conservatory had no window shades they knew full well, but since it and the house were in the midst of grounds the possibility of being spied upon never occurred to them.

Besides, they were making good progress in language exchange now. The woman was able to express herself with comparative fluency, and where she stumbled the gap could always be filled in. Certainly the time had come, in Maxted's opinion, for a determined effort to solve the mystery.

"Just who are you?" he asked the woman, seated on one side of the soil bed and Belling on the other.

"I come from the moon of the second planet," the woman's dulcet voice answered, and she added an arm gesticulation.

"Moon of the second planet?" Maxted repeated, frowning. "You mean the moon of Venus? But it hasn't one!"

"Not now," the woman admitted. She hesitated as she chose her words. Slowly, with many pauses, she began to tell her story.

"My name is Cia. I lived, ages ago, upon the satellite of the world you have called Venus. Upon this satellite, as upon the parent world, there existed—and still *does* on the parent world—a race of beings such as I. I am not either male or female, as you would call it, but both."

"You mean hermaphrodite?" Maxted asked sharply.

"If you call two sexes in one that—yes. Many of your Earth plants have that quality and some of your animals and birds. New plants—new living beings in our case—are born simply by the casting of seed. Under the influence of rich soil it grows and can choose its own sex as far as appearance is concerned. Nature has cursed our race by making us plantlike and immobile, but as a compensation she has given us vast intelligence and—er—telepathy. Yes, that is the word—telepathy! Whether it be a jest of Nature to give great intellect and telepathy to beings who cannot move from the spot where they are born I do not know. But it is a fact."

Maxted looked sharply at the absorbed Belling across the soil bed. The woman resumed haltingly.

"This, though, I *do* know," she went on. "Life—our life—became so profuse on our moon, and the myriad roots became so deep and destructive, that it finally smashed the satellite in pieces, just as some of your climbing plants can tear down a wall. We were aware in advance of what was happening by telepathy and so contracted ourselves back into spore form."

"How could that be done?" Belling asked.

"I've heard of certain plants, and even animals, which can contract themselves." Maxted answered. "Take for instance certain sea squirts which spend the winter in the form of small white masses in which the organs of the normal animal are quite absent. In the spring they reverse the process and grow up again. Sea anemones do the same thing if starved of nutriment. So do flatworms. But usually this contraction business applies only to the invertebrates. You, Cia, appear to have a backbone."

"Wait. Let me get your thought. Backbone?" She pondered. . . . "Not in the sense you know it," she said finally. "It is hard tissue, not solid bone."

"That would explain your ability to shrink then," Maxted admitted. "As for your male-female unity we call it parthenogenesis."

"This power to contract does not destroy our intelligence," the woman resumed. "Because, in a sense, we are still alive. When the satellite broke up, we were, of course, cast adrift into space. Myriads of us must have drifted down onto the parent world, drawn by the gravity, to take root and flourish anew.

"In my case I can only think that cosmic tides wafted me across the infinite to this

world where I have lain, in a form of suspended animation, for untold ages. Then you produced conditions here identical to those on my former world and I came to life. My effort to understand explains why I took so long to communicate. Our ability to what you call 'sing' comes from the need of calling to each other. Over greater distances we have telepathy."

THERE was a silence and Maxted drew a deep breath. He looked at the woman from a faroff world, and then at Belling. But before he could speak his attention was caught by something outside one of the huge windows.

A face was looking into the conservatory—a thin foxlike face topped by a battered Panama hat. The greedy blue eyes of Idiot Jake were watching every detail.

"By gosh!" Maxted breathed angrily, jumping up. "I'll show *him!* It's that blasted yokel out of the village!"

He strode to the door and opened it, closing it quickly again to prevent any drastic change of air.

In a few quick strides he was out through the back entrance into the grounds. Evidently Idiot Jake had guessed what was intended for he had just commenced to slink away into the bushes.

With one dive Maxted was upon him, whirling him round with a tight grip on the collar of his shabby coat.

"Just a minute, Jake! What are you doing here?"

"Nothin', mister." Jake cringed and averted his face. "I just wanted to see the pretty singer. You can't hit me for that."

Maxted tightened his lips for a moment.

"The pretty singer, eh? So that's what you have been telling everybody in the village. How often have you been here?"

"Never before," Jake lied emphatically, and Maxted gave him a shove.

"All right. You go back home before I break your neck. And if I ever find you on my property again I'll hand you over to the police. Go on. Get out of here!"

Jake touched the brim of his battered Panama, grinned vacantly, and he went loping off amidst the bushes. But as he went the grin vanished and was replaced by an expression of malign ferocity.

Maxted returned to the conservatory with a troubled frown.

"I don't like it," he confessed to Belling, when he had briefly recounted what had happened. "That imbecile is likely to spread all kinds of idiotic tales—granting even that he hasn't done so already."

"Doesn't seem to be much we can do, sir," Belling reflected. "The damage, if any, is already done."

Maxted nodded regretfully. Then with a shrug which indicated that he had decided to drop the matter, he turned to look again at Cia. She was watching him intently.

"This meeting between Earth and Venus—or at any rate Venus' moon—is about the most marvelous thing that ever happened," Maxted said. "But wonderful though it is it is incomplete in itself. We are just individuals representing our respective species. There will have to be a way found for space to be bridged and our two worlds to have exchange of visits. You understand what I mean, Cia?"

"I understand," she assented.

"Good! Tell me, with all the high intelligence your race possesses, have you any ideas on space travel?"

"Only in theory. Being immobile we have no use for space travel. But space can be crossed in spore form, as I have already proved."

"In that form, though, are you not at the mercy of the cosmic tides drifting in space?"

"Normally, yes. But a gigantic gun could be fashioned by a race such as you. You have the ability to move about. We have not. Spores fired from such a gun would have enough impetus and direction behind them to make them hit my world."

Maxted stroked his chin and frowned.

"Do you mean that we, of Earth, should try to become spores?"

"I do, yes."

"Can't be done," Maxted sighed. "We are vertebrate."

"You can still become as spores," Cia insisted.

MAXTED was greatly puzzled. What she said seeemd incredible. He frowned.

"But—but how?" he asked, at last.

"If not as spores, then at least a condition very near to it. Our science long ago devised a system of reducing a solid—which includes a vertebrated being with a bone skeleton—to infinitesimal proportions. So you see, we of Venus cannot build a huge gun to fire ourselves to you—but you can build one and fire your reduced selves to Venus. I promise you, you will come to no harm. Reduction

in size means reduction in life energy consumption. You would survive the journey."

There was silence for a while as Maxted paced slowly up and down the conservatory. Cia outlined her plan.

"We of Venus need a race like yours to free us from bondage," she said. "We are intellectual giants chained down by Nature. None of our mighty ideas can bear fruit until we have somebody with us who can move about and so help us. I am prepared to give you the secrets of reduction and atomic power, which you will need to fire the gun, together with the design of the gun itself—if you in turn, with others of your race, will pledge yourselves to work side by side with us to free us from enslavement."

"We have atomic power," Maxted said quietly.

"Completely harnessed?" the woman demanded.

"Well, no. At present it is confined to the early stages. I cannot, of course, speak for my entire race, Cia. It would take years to make everybody understand what is happening here. Even then there would be no guarantee of others agreeing with my viewpoint that we should help you and your people. But speaking for myself and the many scientists who for years have been crying out for a chance like this I am willing to cooperate. Once the thing is done cooperation between our worlds is inevitable."

"Very well," the woman said. "I realize that you cannot convince your race without proof, so I shall make the secrets your property."

"Now?" Maxted questioned eagerly.

"No, tomorrow night. I must have time to consider the relative differences between your mathematics and mine. For tonight I prefer to be left alone."

"All right," Maxted assented. "But one or other of us will remain on guard outside. I don't feel any too happy after discovering that the village idiot has been prowling about."

Contrary to Maxted's fears, however, Idiot Jake did not present himself again during the night, or during the next day, Sunday. By the time evening came both men were too absorbed in the Venusian plant-woman's slow explanation of profound secrets to give any thought to Idiot Jake.

For two hours Cia talked and gave mathematical formulae which Maxted wrote down laboriously in his notebook. In that two hours he learned, through figures anyway, how by electronic processes the human framework of bone—or any inorganic object as well—could be reduced to a matter of atomic aggregates without impairing the inherent intellect. He learned, too, how atomic force could be extracted from copper with complete safety.

There was also revealed to him the multiform ingredients necessary to the manufacture of an atomic long range gun, and the calculations necessary for the trajectory across space to Venus. He discovered too how, once upon Venus, unharmed, tiny human beings could recover their normal stature and commence the work of cooperation.

Yes, upon those sheets of paper which Maxted finally set aside on the bench were secrets which could lay the foundations of an interplanetary empire.

Then suddenly, just as the long effort to understand each other was over, there was a violent explosive crack from one of the windows. A heavy piece of tree branch came hurtling inwards in a shower of glass.

"What the devil!"

Maxted swung round angrily and for a moment there was a vision of Idiot Jake's vindictively grinning face. Then the intruder dashed out of sight and vanished in the darkness of the grounds.

Maxted took three swift strides towards the shattered window, only to pause as Cia gave a desperate, despairing cry and Belling shouted in horror.

SOMETHING was happening to the plant-woman! Her head was drooping, her face suffused with an expression of indescribable anguish. Her soft copper-tinted flesh was turning gray and forming into dry and dusty scales.

"It's the cold, sir!" Belling shouted, seizing Maxted's arm. "It's killing her! The temperature's gone down!"

Maxted made a slow, stupid movement, unable to decide what he ought to do. In any case it was too late now. The night air streaming into the conservatory was charged with frost and under its withering breath the strange being of a superheated world wilted until she looked as if she had been soaked in liquid air. She began to take on a brittle, crystalized aspect.

"Cia!" Maxted gasped, clutching her hand, then he stared in horror as it snapped off in his grip like a rotten branch.

"She's dead, sir," Belling whispered, white-faced. "She's as brittle as a carrot!"

He paused and both he and Maxted swung round as a police officer came striding in through the shattered window, followed by a surging mass of the village populace. In the background was gibbering the drooling Idiot Jake."

"Now, sir!" Police Constable Adams looked round the conservatory curiously, then at the frozen gray image which had been a woman. "Now, sir, what's all this 'ere about you 'aving a woman in 'ere? Always sat in the same place? I've heard all about it."

"From that idiot Jake, eh?" Maxted asked bitterly. "Or from these villagers?" He looked sourly at them as they formed in a curious semicircle.

"I 'eard of a woman being ill treated in 'ere, sir," Constable Adams said. "I considered it my duty to hinvestigate."

"Sheer imagination, Constable, on the part of Jake," Maxted said, trying hard to keep his temper. "I found him on my property here last night and kicked him out. Tonight he smashes a window for revenge and spreads a trumped up tale. And you've no authority to break in on me like this, either!"

"Sorry, sir." Adams began to look uncomfortable. "I just thought I'd better question you."

"We all saw that woman!" one of the villagers piped up. "An' we heard her voice, too. She were a fine singer, she were."

Maxted gave a weary smile.

"The voice, let me assure you, was from an instrument I am working upon. As for the woman—well—can't a man fashion a statue to place among his flowers? Look for yourselves!"

He pointed to the dead, granite-like Cia. Constable Adams looked at her, touched her hard shoulders, brooded over the solidly frozen tendrils in the soil as though he wondered what they were. Finally he put his notebook away and touched his helmet.

"Sorry, sir. There's been a mistake somewhere. I'll say good-night. Outside, you people! Outside!"

When at last they had all gone Maxted relaxed and rubbed his forehead.

"We might have got in a nasty mess, Belling. We never thought of conventions. Poor Cia! Obviously she froze to death before she had a chance to adapt herself into spore form or protect herself against the cold. Blast Idiot Jake! Blast him!"

"At least we have the secrets, sir," Belling said. "Over on the bench there is our passport to Venus—"

He stopped short. Maxted caught his look of consternation and gazed as well. There was no sign of papers or notebook anywhere. . . .

The following morning it was calm and sunny. Two distracted men had searched all night and failed to find the secrets that could link two worlds.

On the bridge over the Bollin brook Idiot Jake sat and hummed to himself, a bundle of papers in each tattered pocket. As he watched the torn strips flutter down and float away the world seemed to him to be laughing. Perhaps it was—ironically.

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The man brought down his hatchet on the juke-box

JUKE-BOX

By WOODROW WILSON SMITH

Nobody Loves Me, wails Jerry Foster — until a mechanical music-maker decides everything's just Moonlight and Roses

JERRY FOSTER told the bartender that nobody loved him. The bartender, with the experience of his trade, said that Jerry was mistaken, and how about another drink.

"Why not?" said the unhappy Mr. Foster, examining the scanty contents of his wallet. "'I'll take the daughter of the vine to spouse. Nor heed the music of a distant drum.' That's Omar."

"Sure," the bartender said surprisingly. "But you want to look out you don't go out by the same door that in you went. No brawls allowed here. This isn't East Fifth, chum."

"You may call me chum," Foster said, re-

verting to the main topic, "but you don't mean it. I'm nobody's pal. Nobody loves me."

"What about that babe you brought in last night?"

Foster tested his drink. He was a good-looking, youngish man with slick blond hair and a rather hazy expression in his blue eyes.

"Betty?" he murmured. "Well, the fact is, a while ago I was down at the Tom-Tom with Betty and this redhead came along. So I ditched Betty. Then the redhead iced me. Now I'm lonely, and everyone hates me."

"You shouldn't of ditched Betty, maybe," the bartender suggested.

"I'm fickle," Foster said, tears springing to his eyes. "I can't help it. Women are my downfall. Gimme another drink and tell me your name."

"Austin."

"Austin. Well, Austin, I'm nearly in trouble. Did you notice who won the fifth at Santa Anita yesterday?"

"Pig's Trotters, wasn't it?"

"Yes," Foster said, "but I laid my dough right on the nose of White Flash. That's why I'm here. Sammy comes around to this joint now, doesn't he?"

"That's right."

"I'm lucky, Foster said. "I got the money to pay him. Sammy is a hard man when you don't pay off."

"I wouldn't know," the bartender said. "Excuse me."

He moved off to take care of a couple of vodka collinses.

"So you hate me too," Foster said, and, picking up his drink, wandered away from the bar.

He was surprised to see Betty sitting alone in a booth, watching him. But he was not at all surprised to see that her blond hair, her limpid eyes, her pink-and-white skin had lost all attraction for him. She bored him. Also, she was going to make a nuisance of herself.

Foster ignored the girl and went further back, to where a bulky oblong object was glowing in polychromatic colors against the far wall. It was what the manufacturers insist on terming an automatic phonograph, in spite of the more aptly descriptive word juke-box.

This was a lovely juke-box. It had lots of lights and colors. Moreover, it wasn't watching Foster, and it kept its mouth shut.

FOSTER draped himself over the juke-box and patted its sleek sides.

"You're my girl," he announced. "You're beautiful. I love you madly, do you hear? Madly."

He could feel Bety's gaze on his back. He swigged his drink and smoothed the juke-box's flanks, glibly protesting his sudden affection for the object. Once he glanced around. Betty was starting to get up.

Foster hastily found a nickel in his pocket and slipped it into the coin-lever, but before he could push it in, a stocky, dark man wearing horn-rimmed glasses entered the bar, nodded at Foster, and moved quickly to a booth where a fat person in tweeds was sitting. There was a short consultation, during which money changed hands, and the stocky man made a note in a small book he brought from his pocket.

Foster took out his wallet. He had had trouble with Sammy before, and wanted no more. The bookie was insistent on his pound of flesh. Foster counted his money, blinked, and counted it again, while his stomach fell several feet. Either he had been short-changed, or he had lost some dough. He was short.

Sammy wouldn't like that.

Forcing his fogged brain to think, Foster wondered how he could gain time. Sammy had already seen him. If he could duck out the back.

It had become altogether too silent in the bar. He needed noise to cover his movements. He saw the nickel in the juke-box's coin-lever and hastily pushed it in.

Money began to spew out of the coin return slot.

Foster got his hat under the slot almost instantly. Quarters, dimes, and nickels popped out in a never-ending stream. The juke-box broke into song. A needle scratched over the black disc. The torchy mourning of "My Man" came out sadly. It covered the tinkling of the coins as they filled Foster's hat.

After a while the money stopped coming out of the juke-box. Foster stood there, thanking his personal gods, as he saw Sammy moving toward him. The bookie glanced at Foster's hat and blinked.

"Hi, Jerry. What gives?"

"I hit a jackpot," Foster said.

"Not on the juke-box!"

"No, down at the Onyx," Foster said, naming a private club several blocks away.

"Haven't had a chance to get these changed into bills yet. Want to help me out?"

"I'm no cash register," Sammy said. "I'll take mine in green."

The juke-box stopped playing "My Man" and broke into "Always." Foster put his jingling hat on top of the phonograph and counted out bills. He didn't have enough, but he made the balance up out of quarters he fished from the hat.

"Thanks," Sammy said. "Too bad your nag didn't make it."

"*'With a love that's true, always—'*" the juke-box sang fervently.

"Can't be helped," Foster said. "Maybe next time I'll hit 'em."

"Want anything on Oaklawn?"

"*'When the things you've planned, need a helping hand—'*"

Foster had been leaning on the juke-box. On the last two words, a tingling little shock raced through him. Those particular two words jumped out of nothing, impinged on the surface of his brain, and sank in indelibly, like the stamp of a die. He couldn't hear anything else. They echoed and re-echoed.

"Uh—helping hand," he said hazily. "Helping—"

"A sleeper?" Sammy said. "Okay, Helping Hand in the third, at Oaklawn. The usual?"

The room started to turn around. Foster managed to nod. After a time he discovered that Sammy was gone. He saw his drink on the juke-box, next to his hat, and swallowed the cool liquid in three quick gulps. Then he bent and stared into the cryptic innards of the automatic phonograph.

"It can't be," he whispered. "I'm drunk. But not drunk enough. I need another shot."

A quarter rolled out of the coin-return slot, and Foster automatically caught it.

"No!" he gulped. "Oh-h-h!" He stuffed his pockets with the booty from the hat, held on to his glass with the grip of a drowning man, and went toward the bar. On the way he felt someone touch his sleeve.

"Jerry," Betty said. "Please."

He ignored her. He went on to the bar and ordered another drink.

"Look, Austin," he said. "That juke-box you got back there. Is it working all right?"

Austin squeezed a lime. He didn't look up.

"I don't hear any complaints."

"But—"

Austin slid a replenished glass toward Foster.

"Excuse me," he said, and went to the other end of the bar.

Foster stole a look at the juke-box. It sat against the wall glowing enigmatically.

"I don't exactly know what to think," he said to no one in particular.

A record started playing. The juke-box sang throatily:

"*'Leave us face it, we're in love. . . .'*"

THE truth was, Jerry Foster was feeling pretty low in those days. He was essentially a reactionary, so it was a mistake for him to have been born in an era of great change. He needed the feel of solid ground under his feet. And the ground wasn't so solid any more, what with the newspaper headlines and new patterns for living emerging out of the vast technological and sociological changes the mid-Twentieth Century offered.

You've got to be elastic to survive in a changing culture. Back in the stable Twenties, Foster would have got along beautifully, but now, in a word, he just wasn't on the ball. A man like that seeks stable security as his ultimo, and security seemed to have vanished.

The result was that Jerry Foster found himself out of a job, badly in debt, and drinking far more than he should have done. The only real advantage to that set-up was that alcohol buffered Foster's incredulity when he encountered the affectionate juke-box.

Not that he remembered it the next morning. He didn't recall what had happened for a couple of days, till Sammy looked him up and gave him nine hundred dollars, the result of Helping Hand coming in under the wire at Oaklawn. The long shot had paid off surprisingly.

Foster instantly went on a binge, finding himself eventually at a downtown bar he recognized. Austin was off duty, however, and Betty wasn't present tonight. So Foster, tanked to the gills, leaned his elbow on polished mahogany and stared around. Toward the back was the juke-box. He blinked at it, trying to remember.

The juke-box began to play "I'll Remember April." The whirling confusion of insobriety focused down to a small, clear, cold spot in Foster's brain. He started to tingle. His mouth formed words:

"Remember April—Remember April?"

"All right!" said a fat, unshaven, untidy man standing next to him. "I heard you!

I'll—What did you say?"

"Remember April," Foster muttered, quite automatically. The fat man spilled his drink.

"It isn't! It's March!"

Foster peered around dimly in search of a calendar.

"It's April third," he affirmed presently. "Why?"

"I've got to get back, then," said the fat man in desperation. He scrubbed at his sagging cheeks. "April already! How long have I been tight? You don't know? It's your business to know. April! One more drink, then." He summoned the bartender.

He was interrupted by the sudden appearance of a man with a hatchet. Foster, blearily eying the apparition, almost decided to get out in search of a quieter gin-mill. This new figure, bursting in from the street, was a skinny blond man with wild eyes and the shakes. Before anyone could stop him, he had rushed the length of the room and lifted his hatchet threateningly above the juke-box.

"I can't stand it!" he cried hysterically. "You spiteful little—I'll fix you before you fix me!"

So saying, and ignoring the purposeful approach of the bartender, the blond man brought down his hatchet heavily on the juke-box. There was a blue crackle of flame, a tearing noise, and the blond man collapsed without a sound.

Foster stayed where he was. There was a bottle on the bar near him, and he captured it. Rather dimly, he realized what was happening. An ambulance was summoned. A doctor said the blond man had been painfully shocked, but was still alive. The juke-box had a smashed panel, but appeared uninjured otherwise. Austin came from somewhere and poured himself a shot from under the bar.

"Each man kills the thing he loves," Austin said to Foster. "You're the guy who was quoting Omar at me the other night, aren't you?"

"What?" Foster said.

Austin nodded at the motionless figure being loaded on a stretcher.

"Funny business. That fella used to come in all the time just to play the juke-box. He was in love with the thing. Sat here by the hour listening to it. Course, when I say he was in love with it, I'm merely using a figure of speech, catch?"

"Sure," Foster said.

"Then a couple of days ago he blows up. Crazy as a loon. I come in and find the guy on his knees in front of the juke-box, begging it to forgive him for something or other. I don't get it. Some people shouldn't drink, I guess. What's yours?"

"The same," Foster said, watching the ambulance men carry the stretcher out of the bar.

"Just mild electric shock," an intern said. "He'll be all right."

The juke-box clicked, and a new record swung across. Something must have gone wrong with the amplification, for the song bellowed out with deafening intensity.

"'Chlo-eee!'" screamed the juke-box urgently. "*'Chlo-eeee!'*"

DEAFENED, fighting the feeling that this was hallucination, Foster found himself beside the juke-box. He clung to it against the mad billows of sound. He shook it, and the roaring subsided.

"'Chlo-eee!'" the juke-box sang softly and sweetly.

There was confusion nearby, but Foster ignored it. He had been struck by an idea. He peered into the phonograph's innards through the glass pane. The record was slowing now, and as the needle lifted Foster could read the title on the circular label.

It said, "Springtime in the Rockies."

The record hastily lifted itself and swung back to concealment among the others in the rack. Another black disc moved over under the needle. It was "Twilight in Turkey."

But what the juke-box played, with great expression, was: "We'll Always Be Sweethearts."

After a while the confusion died down. Austin came over, examined the phonograph, and made a note to get the broken panel replaced. Foster had entirely forgotten the fat, unshaven, untidy man till he heard an irritated voice behind him say:

"It can't be April!"

"What?"

"You're a liar. It's still March."

"Oh, take a walk," said Foster, who was profoundly shaken, though he did not quite known why. The obvious reasons for his nervousness, he suspected, weren't the real ones.

"You're a liar, I said," the fat man snarled, breathing heavily in Foster's face. "It's March! You'll either admit it's March, or—or—"

But Foster had had enough. He pushed the fat man away and had taken two steps when

a tingling shock raced through him and the small, cold, spot of clarity sprang into existence within his brain.

The juke-box started to play; "Accentuate the Positive, Eliminate the Negative."

"It's March!" the fat man yelped. "Isn't it March?"

"Yes," Foster said thickly. "It's March."

All that night the song-title blazed in his mind. He went home with the fat man. He drank with the fat man. He agreed with the fat man. He never used a negative. And, by morning, he was surprised to find that the fat man had hired him as a song-writer for Summit Studios, simply because Foster didn't say no when he was asked whether he could write songs.

"Good," the fat man said. "Now I'd better get home. Oh, I am home, aren't I? Well, I gotta go to the studio tomorrow. We're starting a super-musical April second, and—This is April, isn't it?"

"Sure."

"Let's get some sleep. No, not that door. The swimming-pool's out there. Here, I'll show you a spare bedroom. You're sleepy, aren't you?"

"Yes," said Foster, who wasn't.

But he slept, nevertheless, and the next morning found himself at Summit Studios with the fat man, putting his signature on a contract. Nobody asked his qualifications. Taliaferro, the fat man, had okayed him. That was enough. He was given an office with a piano and a secretary, and sat dazedly behind his desk for most of the day, wondering how the devil it had all happened. At the commissary, however, he picked up some scraps of information.

Taliaferro was a big shot—a very big shot. He had one idiosyncrasy. He couldn't endure disagreement. Only yes-men were allowed around him. Those who worked for Taliaferro had to accentuate the positive, eliminate the negative.

Foster got his assignment. A romantic love song for the new picture. A duet. Everyone took it for granted that Foster knew one note from another. He did, having studied piano in his youth, but counterpoint and the mysteries of minor keys were far beyond him.

That night he went back to the little downtown bar.

It was just a hunch, but he thought the juke-box might be able to help him. Not that he really believed in such things, but at worst, he could hoist a few shots and try to figure a way out. But the juke-box kept playing one song over and over.

The odd thing was that nobody else heard that particular song. Foster discovered that quite by accident. To Austin's ears, the juke-box was going through an ordinary repertoire of modern popular stuff.

After that, Foster listened more closely. The song was a haunting duet, plaintive and curiously tender. It had overtones in it that made Foster's spine tingle.

"Who wrote that thing?" he asked Austin.

"Wasn't it Hoagy Carmichael?"

But they were talking at cross-purposes. The juke-box suddenly sang. "I Dood It," and then relapsed into the duet.

"No," Austin said. "I guess it wasn't Hoagy. That's an old one. 'Dardanella.'"

But it wasn't "Dardanella."

FOSTER saw a piano at the back. He went to it and got out his notebook. First he wrote the lyrics. Then he tried to get the notes down, but they were beyond him, even with the piano as a guide. The best he could achieve was a sort of shorthand. His own voice was true and good, and he thought he might be able to sing the piece accurately, if he could find someone to put down the notes for him.

When he finished, he studied the juke-box more closely. The broken panel had been repaired. He patted the gadget in a friendly way and went away thinking hard.

His secretary's name was Lois Kennedy. She came into his office the next day while Foster was tapping at the piano and helplessly endeavoring to write down the score.

"Let me help you, Mr. Foster," she said competently, casting a practised eye over the messy pages.

"I—no, thanks," Foster said.

"Are you bad on scores?" she asked as she smiled. "A lot of composers are that way. They play by ear, but they don't know G sharp from A flat."

"They don't, eh?" Foster murmured.

The girl eyed him intently. "Suppose you run through it, and I'll mark down a rough scoring."

Foster hit a few chords. "Phooey!" he said at last, and picked up the lyrics. Those were readable, anyway. He began to hum.

"Swell," Lois said. "Just sing it. I'll catch the melody."

Foster's voice was true, and he found it surprisingly easy to remember the love song

the juke-box had played. He sang it, and Lois presently played it on the piano, while Foster corrected and revised. At least he could tell what was wrong and what was right. And, since Lois had lived music since her childhood, she had little difficulty in recording the song on paper.

Afterwards she was enthusiastic.

"It's swell," she said. "Something really new. Mr. Foster, you're good. And you're not lifting from Mozart, either. I'll shoot this right over to the big boy. Usually it's smart not to be in too much of a hurry, but since this is your first job here, we'll chance it."

Taliaferro liked the song. He made a few useless suggestions, which Foster, with Lois's aid, incorporated, and sent down a list of what else was needed for the super-musical. He also called a conclave of the song-writers to listen to Foster's opus.

"I want you to hear what's good," Taliaferro told them. "This new find of mine is showing you up. I think we need new blood," he finished darkly, eying the wretched song-writers with ominous intensity.

But Foster quaked in his boots. For all he knew, his song might have been plagiarized. He expected someone in the audience to spring up and shout:

"That new find of yours swiped his song from Berlin!"

Or Gershwin or Porter or Hammerstein, as the case might be.

Nobody exposed him. The song *was* new. It established Foster as a double-threat man, since he had done both melody and lyrics himself.

He was a success.

Every night he had his ritual. Alone, he visited a certain downtown bar. When necessary, the juke-box helped him with his songs. It seemed to know exactly what was needed. It asked little in return. It served him with the unquestioning fidelity of 'Cigarette' in "Under Two Flags." And sometimes it played love songs aimed at Foster's ears and heart. It serenaded him. Sometimes, too, Foster thought he was going crazy.

Weeks passed. Foster got all his assignments done at the little downtown bar, and later whipped them into suitable shape with his secretary's assistance. He had begun to notice that she was a strikingly pretty girl, with attractive eyes and lips. Lois seemed amenable, but so far Foster had held back from any definite commitment. He felt unsure of his new triumphs.

But he blossomed like the rose. His bank account grew fat, he looked sleeker and drank much less, and he visited the downtown bar every night. Once he asked Austin about it.

"That juke-box. Where'd it come from?"

"I don't know," Austin said. "It was here before I came."

"Well, who puts new records in it?"

"The company, I suppose."

"Ever see 'em do it?"

Austin thought. "Can't say I have. I guess the man comes around when the other bartender's on duty. It's got a new set of records on every day, though. That's good service."

Foster made a note to ask the other bartender about it. But there was no time. For, the next day, he kissed Lois Kennedy.

That was a mistake. It was the booster charge. The next thing Jerry Foster knew, he was making the rounds with Lois, and it was after dark, and they were driving unsteadily along the Sunset Strip, discussing life and music.

"I'm going places," Foster said, dodging an oddly ambulatory telephone pole. "We're going places together."

"Oh, honey!" Lois said.

Foster stopped the car and kissed her.

"That calls for another drink," he remarked. "Is that a bar over there?"

THE night wore on. Foster hadn't realized he had been under a considerable strain. Now the lid was off. It was wonderful to have Lois in his arms, to kiss her, to feel her hair brushing his cheek. Everything became rosy.

Through the rosy mist he suddenly saw the face of Austin.

"The same?" Austin inquired.

Foster blinked. He was sitting in a booth, with Lois beside him. He had his arm around the girl, and he had an idea he had just kissed her.

"Austin," he said, "how long have we been here?"

"About an hour. Don't you remember, Mr. Foster?"

"Darling," Lois murmured, leaning heavily against her escort.

Foster tried to think. It was difficult.

"Lois," he finally said "haven't I got another song to write?"

"It'll keep."

"No. That torch song. Taliaferro wants it Friday."

"That's four days away."

"Now I'm here, I might as well get the song," Foster said, with alcoholic insistence, and stood up.

"Kiss me," Lois murmured, leaning toward him.

He obeyed, though he had a feeling that there was more important business to be attended to. Then he stared around, located the juke-box, and went toward it.

"Hello, there," he said, patting the sleek, glowing sides. "I'm back. Drunk, too. But that's all right. Let's have that song."

The juke-box was silent. Foster felt Lois touch his arm.

"Come on back. We don't want music."

"Wait a minute, hon."

Foster stared at the juke-box. Then he laughed.

"I know," he said, and pulled out a handful of change. He slid a nickel into the coin-lever and pushed the lever hard.

Nothing happened.

"Wonder what's wrong with it?" Foster muttered. "I'll need that song by Friday."

He decided that there were a lot of things he didn't know about, and ought to. The muteness of the juke-box puzzled him.

All of a sudden he remembered something that had happened weeks ago, the blond man who had attacked the juke-box with a hatchet and had only got shocked for his pains. The blond man he vaguely recalled, used to spend hours *en tete-a-tete* with the juke-box.

"What a dope!" Foster said thickly.

Lois asked a question.

"I should have checked up before," he answered her. "Maybe I can find out—oh, nothing, Lois. Nothing at all."

Then he went after Austin. Austin gave him the blond man's name and, an hour later, Foster found himself sitting by a white hospital bed, looking down at a man's ravaged face under faded blond hair. Brashness, judicious tipping, and a statement that he was a relative had got him this far. Now he sat there and watched and felt questions die as they formed on his lips.

When he finally mentioned the juke-box, it was easier. He simply sat and listened.

"They carried me out of the bar on a stretcher," the blond man said. "Then a car skidded and came right at me. I didn't feel any pain. I still don't feel anything. The driver—she said she'd heard somebody shouting her name. Chloe. That startled her so much she lost control, and hit me. You know who yelled 'Chloe,' don't you?"

Foster thought back. There was a memory somewhere.

The juke-box had begun to play "Chloe," and the amplification had gone haywire, so the song had bellowed out thunderously for a short time.

"I'm paralyzed," the blond man said. "I'm dying, too. I might as well. I think I'll be safer. She's vindictive and plenty smart."

"She?"

"A spy. Maybe there's all sorts of gadgets masquerading as—as things we take for granted. I don't know. They substituted that juke-box for the original one. It's alive. No, not it! *She!* It's a she, all right!"

And—"Who put her there?" The blond man said, in answer to Foster's question. "Who are—they? People from another world or another time? Martians? They want information about us, I'll bet, but they don't dare appear personally. They plant gadgets that we'll take for granted, like that juke-box, to act as spies. Only this one got out of control a little. She's smarter than the others."

He pushed himself up on the pillow, his eyes glaring at the little radio beside him.

"Even that!" he whispered. "Is that an ordinary, regular radio? Or is it one of their masquerading gadgets, spying on us?"

He fell back.

"I began to understand quite a while ago," the man continued weakly. "She put the ideas in my head. More than once she pulled me out of a jam. Not now, though. She won't forgive me. Oh, she's feminine, all right. When I got on her bad side, I was sunk. She's smart, for a juke-box. A mechanical brain? Or—I don't know.

"I'll never know, now. I'll be dead pretty soon. And that'll be all right with me."

The nurse came in then. . . .

JERRY FOSTER was coldly frightened. And he was drunk. Main Street was bright and roaring as he walked back, but by the time he had made up his mind, it was after closing hour and a chill silence went hand in hand with the darkness. The street lights didn't help much.

"If I were sober I wouldn't believe this," he mused, listening to his hollow footfalls on the pavement. "But I do believe it. I've got to fix things up with that—juke-box!"

Part of his mind guided him into an alley.

Part of his mind told him to break a window, muffling the clash with his coat, and the same urgent, sober part of his mind guided him through a dark kitchen and a swinging door.

Then he was in the bar. The booths were vacant. A faint, filtered light crept through the Venetian blinds shielding the street windows. Against a wall stood the black, silent bulk of the juke-box.

Silent and unresponsive. Even when Foster inserted a nickel, nothing happened. The electric cord was plugged in the socket, and he threw the activating switch, but that made no difference.

"Look," he said. "I was drunk. Oh, this is crazy. It can't be happening. You're not alive— *Are you alive?* Did you put the finger on that guy I just saw in the hospital? Listen!"

It was dark and cold. Bottles glimmered against the mirror behind the bar. Foster went over and opened one. He poured the whisky down his throat.

After a while, it didn't seem so fantastic for him to be standing there arguing with a juke-box.

"So you're feminine," he said. "I'll bring you flowers tomorrow. I'm really beginning to believe! Of course I believe! I can't write songs. Not by myself. You've got to help me. I'll never look at a—another girl."

He tilted the bottle again.

"You're just in the sulks," he said. "You'll come out of it. You love me. You know you do. This is crazy!"

The bottle had mysteriously vanished. He went behind the bar to find another. Then, with a conviction that made him freeze motionless, he knew that there was someone else in the room.

He was hidden in the shadows where he stood. Only his eyes moved as he looked toward the newcomers. There were two of them, and they were not human.

They—moved—toward the juke-box, in a rather indescribable fashion. One of them pulled out a small, shining cylinder from the juke-box's interior.

Foster, sweat drying on his cheeks, could hear them thinking.

"Current report for the last twenty-four hours, Earth time. Put in a fresh recording cylinder. Change the records, too."

Foster watched them change the records. Austin had said that the disks were replaced daily. And the blond man, dying in the hospital, had said other things. It couldn't be real. The creatures he stared at could not exist. They blurred before his eyes.

"A human is here," one of them thought. "He has seen us. We had better eliminate him."

The blurry, inhuman figures came toward him. Foster, trying to scream, dodged around the end of the bar and ran toward the juke-box. He threw his arms around its unresponsive sides and gasped:

"Stop them! Don't let them kill me!"

He couldn't see the creatures now but he knew that they were immediately behind him. The clarity of panic sharpened his vision. One title on the juke-box's list of records stood out vividly. He thrust his forefinger against the black button beside the title "Love Me Forever."

Something touched his shoulder and tightened, drawing him back.

Lights flickered within the juke-box. A record swung out. The needle lowered into its black groove.

The juke-box started to play "I'll Be Glad When You're Dead, You Rascal You."

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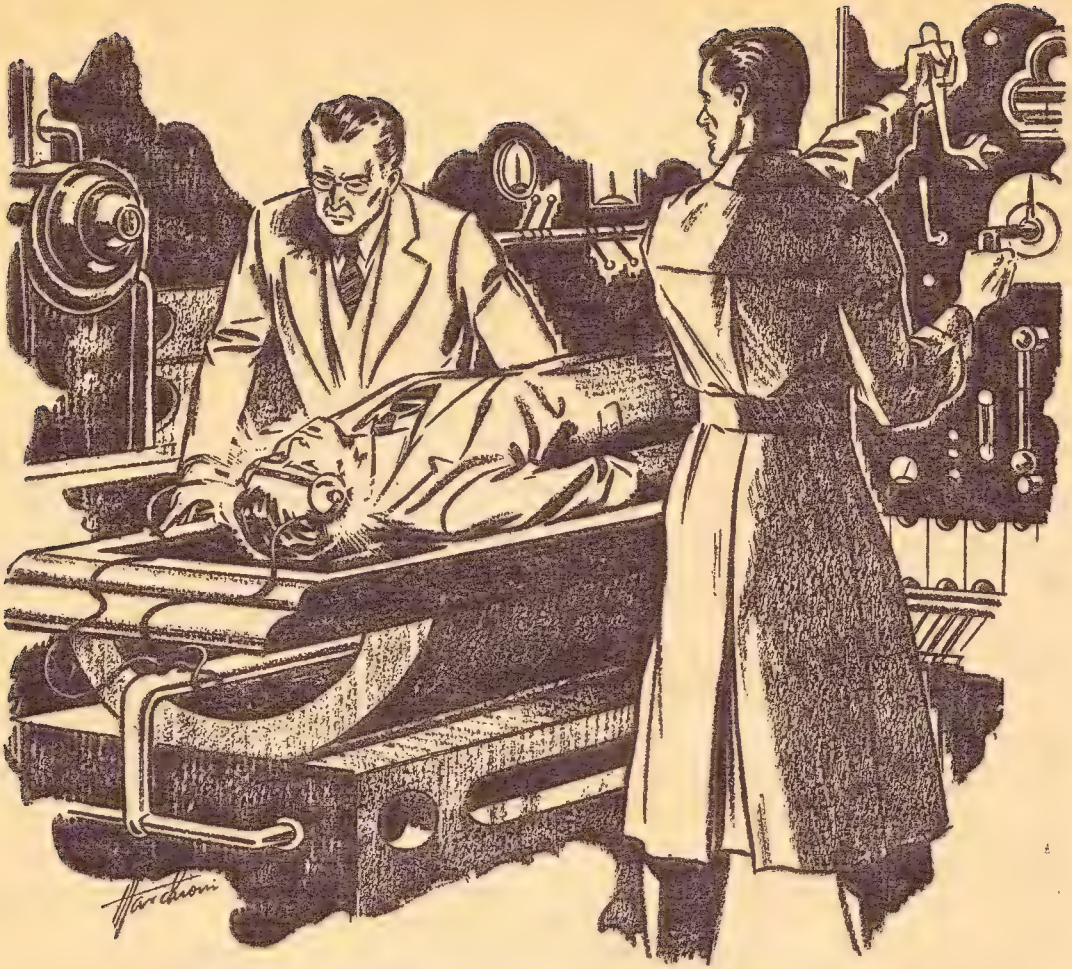

"Go ahead," I murmured from the table, for pride had made me conquer my terror

Come Home From Earth

By EDMOND HAMILTON

Psychology professor Fred Ellis volunteers as the subject of a dangerous scientific experiment—never counting the cost!

THEY will be condemning Doctor Dixon's experiment, by now. He'll be blamed for what happened to me. The newspapers will yelp, "Young Scientist Loses Mind As Result of Rash Experiment!"

They will be wrong. I didn't lose my mind. It would be much truer to say that my mind lost *me*.

Let me go back. I was Fred Ellis, thirty years old, instructor in psychology at Midwestern University. At least, that's who I thought I was!

Doctor Francis Dixon, head of our department, was a dark, keen, brilliant man who was out of place in those poky classrooms. But he and John Burke, the assistant professor, carried on much private research.

Dixon's work was usually away over my

head. His ideas were brilliant, if unconventional. Burke, a blond young giant with a strong faculty of imagination, understood him better than I did. I was the plodding, patient type of scientist, I'm afraid.

But I intensely admired Dixon and listened with deep interest to his theories and suggestions. One night, talking with Burke, he came out with the most daring suggestion of all.

Burke had made the trite remark that "mind is just a function of the physical body, after all."

"How do we know it is?" Dixon demanded. "All good little modern psychologists repeat that, but how do we know? It may be that mind and body are wholly different individual entities."

Burke gaped at him. "But that's going back to old-fashioned nonsense. How *could* mind and body be different entities?"

"Ever go deep-sea fishing?" Dixon asked him unexpectedly.

"Fishing?" repeated Burke.

"Down off Florida you catch big sharks and sea-bass that have remoras, or sucker-fish, a foot long solidly attached to their sides. The remora is part of the shark, yet they're different entities.

"Termites have flagellates in their body who digest the wood the termites eat. Leguminous plants live in mutually profitable partnership with nitrogen-fixing bacteria, the plants fixing carbon and the bacteria nitrogen."

"I'm not a sophomore," Burke said a little resentfully. "You can mention symbiosis without defining it for me."

Dixon laughed.

"All right, I'm talking about symbiosis—the ability of two entirely different species of creatures to live in closest conjunction, one inside or attached to the body of the other."

He lighted a cigarette and looked at us.

"Suppose the mind and body also are two different species of living creatures, two *utterly* different species, living together in symbiosis?"

OF COURSE the idea seemed a little crazy to me at first, and so it did to Burke.

"That's a wacky theory, Dixon. You can see and handle a remora, but who ever saw or handled an individual human mind?"

"Who ever saw or handled a radar beam?" retorted Dixon. "But we know it's there. Maybe your mind falls into the same class. A living, individual creature, not of ordinary matter but of non-material photons."

I became so interested I ventured a question. "If my mind and body are two different creatures, how come I don't know it?"

"Don't you know it?" he said. "You *do* know it, Ellis. How many times has your reasoning mind urged you to do one thing, while the instincts of your body led you to do another? Mind and body are always at strife in all of us—it's been so in all human history."

He seemed to kindle to his own idea.

"Why is it that of all animals, only homo sapiens had what we call a conscious mind? The explanations of the biologists are pretty hazy, for they don't really know the answer. Suppose the answer is that the *human* body is the only one in which the individual, living mind can live in symbiosis?"

Burke was still unimpressed. "That's just the old dualistic theory of Descartes, at bottom."

"The old has a habit of becoming the very new, in science," retorted Dixon. "Doctor Alexis Carrel was a pretty modern and famous scientist. And Carrel, speculating in one of his books on the riddle of mind, suggested that a mind might be an immaterial being that somehow inserts itself from outside into the human brain and dwells there."

I was deeply interested.

"Is there any way you could prove or disprove the theory, doctor?" I asked.

Dixon shrugged. "How are you going to prove it? Forcing the living mind temporarily out of its comfortable symbiotic partnership in the body might prove it. But how can you force out a thing of immaterial photons? Nothing but electric force could do it . . ."

That moment, as it turned out, was the beginning of the stunning events that followed.

Until then, Dixon had been merely hypothesizing. But now his dark face changed, and he was silent in intense thought.

"I believe," he said finally, "that it might be done, by amplifying the electroshock treatment used on psychotic patients by Cerletti and Bini in nineteen thirty-nine. You remember their patients could remember nothing of elapsing time while under shock? Their minds must have been out of their bodies for a moment!

"Suppose I increased the electroshock strength to force the mind out a little longer?

The subject, when he came back to normal, might then remember his sensations as a disembodied mind."

Burke slowly nodded. "Sounds possible. But you'll never find out. You've no one to test the idea on, and never will have."

I don't know why it was that I didn't hesitate a moment in speaking up. I had not the slightest doubt.

"You can use me as your subject, doctor," I said.

I believe now it was my vain desire to emulate Dixon, my consciousness of my own lack of brilliance, that made me seize a chance to distinguish myself in an epochal experiment.

"You, Ellis?" Burke looked shocked.

But Dixon didn't. A little light leaped into his eyes as he looked at me.

He liked me, I think. But that liking meant not a straw when compared to the intensity with which he pursued any research.

"You know, of course, that it would be dangerous?" he warned. "The object would be to force your mind free of your body for all of a few minutes, then let it return so you can describe your sensations.

"This body-mind partnership, if it really exists, must be about the closest symbiosis in existence. Tampering with the partnership might have disastrous results."

Dixon didn't mean to do it, I'm sure. But just such solemn discouragement as that was exactly what would add to the eagerness of a young enthusiast like myself.

That very night, I wrote out a letter volunteering myself as subject in the experiment and freely exonerating Dixon and Burke of any possible unpleasant consequences.

Two nights later, Dixon had his preparations made. I think he rushed things lest I lose my nerve. But I was more keen on the thing than ever. Even if things *did* go wrong, I saw my name in the books as a haloed martyr of science.

HE HAD set up a simple generator whose output could be graduated between 70 and 100 volts. I lay down on a table, and he and Burke attached two rubber pads faced with copper to my temples, as the electrodes.

Dixon repeated his final instructions.

"At the slightest crook of your finger we'll cut the current, Ellis. If you feel any dangerous sensations, don't hesitate."

He called, then, "All right, Burke—the switches."

"I feel more like an excutioner than a scientist," Burke growled.

The generator was already humming. Dixon fed the current so weakly at first that I could feel only a tingle in my nerves.

"It'll take more than that," I told him, grinning.

He jumped his rheostats a little. The tingling in my nerves and brain became much stronger.

I felt an odd, dizzy sensation. It got more pronounced as Dixon let me have the current in stronger and stronger jolts.

The whole laboratory seemed to dim around me, even Dixon's dark, watchful face blurring to my eyes.

For a moment, I felt panic. After all, there *was* something gruesome about trying temporarily to dissociate my mind from my body!

Dixon's voice came through the blur.

"All right, Ellis?" he asked.

Pride made me conquer my panic.

"Go ahead," I murmured.

All consciousness of bodily sensation vanished in a whirling blur as the jolts of current came faster and faster. I had a ghastly sensation of *freedom.*

Can freedom be terrible? Freedom from your own body can—at least at first. That was what I was feeling.

I seemed to float in a whirling, throbbing haze. Then my strange sensations cleared a little.

I was still in the laboratory. But now I was floating several feet above the table and the limp body of Fred Ellis!

I couldn't see, or hear, or use any other ordinary bodily sense. Yet I *felt* my surroundings as clearly as though I saw them, by means of unguessable senses in my immaterial being.

I was still I, but somehow it was now a different "I." I felt connected to the limp form of Fred Ellis below me only by a tenuous thread.

Dazed, bewildered by the change, as I hovered there I sensed a sudden clear question from close by.

"Has your host died, comrade?"

I didn't hear that, and it wasn't in words. It was in thought or thought-force that I automatically received.

In the same way, I was conscious now of another immaterial being like myself hovering close to me. He couldn't be seen, any more than I could, but he was there. And he was completely free, not connected as I

was to a lax human body.

"Has your host died?" he asked again.

Dazedly, without realizing what I said, I answered in thought.

"No, he is not dead. I am still linked to him."

"Have you been here long, comrade?" came the question. "I am Klon, and I am newly come from Aarl."

Aarl? That name was like a trigger in my hovering mind, unloosing a strange dim flood of memory.

"I am T'Shal, and I came from Aarl ages ago," I exclaimed. "Only now do I remember! There is horror here—"

Crash!

It all ended suddenly. I was Fred Ellis, dazedly opening my eyes on the table. The thunderous crash had been merely the click of a switch.

"Ellis?" Dixon was sweating as he chafed my wrists. "Ellis, are you all right?"

I stared at him in a frozen fashion.

"You brought me back into my body?"

"And just in time, I'd say!" exclaimed Burke. "You were in a ghastly coma—I insisted we cut it short."

Dixon had seized eagerly on my words. "You mean, you were really out of your body? Your mind was free for those moments?"

"Only partly free," I mumbled. "I was still linked to it. But even so, I was just beginning to remember something—"

IT WAS fading in my mind, even as I tried to tell about it. Frantically, I sought to grasp those vague, vanishing memories.

"Something about a place called Aarl! And I thought my name was T'Shal, and—and I can't remember, now."

"Ellis, try to remember!" Dixon urged. "Think hard, man!"

The harder I tried, the more swiftly receded those fast-fading memories. It was all gone already from my brain.

We talked it over for hours that night, after I had recovered from my shakiness.

"We've stumbled onto experimental proof of the most revolutionary theory in scientific history," Dixon said. "Proof that the mind is a wholly different species and entity from the human body, and is merely a symbiotic partner of that body.

"Good Heavens, think of all the things that it would explain! If you could only remember more, Ellis! Think again—what was it about Aarl?"

Aarl? The name vibrated in my thoughts like something faint, far away, heartbreaking.

Did you ever try to remember something and couldn't, yet the very thing you couldn't remember made you feel sad? It was that way with me.

I knew that Aarl meant something to me, something wonderful and terrifying. But I couldn't remember what it was.

"There's a possible explanation of your quick forgetfulness," said Dixon finally. "The mind-entity, once it is inhabiting the human brain, is so far overcome by the human animal's rudimentary nervous currents that it is drugged, inhibited.

"That would explain why young children, whose human brains are not yet fully developed, continually have strange, fanciful 'memories' of other things, of queer places that they call fairylands."

Burke nodded thoughtfully.

"You mean that in infancy the mind-partner of the symbiosis is not so inhibited and can still remember its own past? Maybe Wordsworth was right:

> " 'Our birth is but a sleep and a forgetting,
> The soul that rises with us, our life's star,
> Hath had elsewhere its setting,
> And cometh from afar.' "

"Something like that," Dixon affirmed, pondering. "And when the mind gets almost free of the body-partner, as Ellis did, then it *can* remember."

I told him, "If you had used a little stronger electroshock, if I'd been free altogether, I know I could remember more."

Burke looked doubtful.

"What good would it do you, since you'd forget it all again when you came back into your body?"

Dixon quickly figured an answer.

"If the free mind is a group of photons as we believe, it could interrupt a sufficiently sensitive photoelectric beam and actuate a relay to a telegraph-sounder. Ellis could signal us that way by the Morse code. He could tell us right at the moment what he remembers, *before* he returns to his body and forgets."

"If you'll fix up such a device, I'll try the thing again!" I promised.

It was crazy of me to make that offer, I

felt. The dim unearthliness of my experience should have been enough for me.

But I was haunted by that most maddening of feelings, by a vain desire to remember something forgotten.

Somehow, I felt that Aarl, where I had been T'Shal, was so vastly important as to overrule any danger to my life as Fred Ellis. I had a premonition of beauty and wonder and horror all waiting to burst upon me—if I could only remember them!

So the next night, when I again took my place on the table, it was with increased eagerness. Dixon had showed me the beam of photoelectric force now crossing the room just above the table.

"You said that as a mind you were aware of locations and could move, Ellis. Well, if you can move into this beam, it will actuate the telegraph-sounder and signal us.

"Send us, if you're able, an exact description of just what you feel and remember. We'll take it down—and when you return to your body, it won't matter if you immediately do forget everything again."

He turned on the electroshock current, and I felt again that sharp tingle in body and brain.

AGAIN, my senses blurred. The laboratory swam about me, I was whirling through dimness.

The pressure of the jolting current mounted and mounted. I felt an intolerable sense of strain—then a sharp, sudden release.

I was completely free of Fred Ellis' limp body now! I, T'Shal the Aarlan, who had inhabited Ellis' body for thirty Earth years!

"Comrade, is it you again?" I recognized instantly the mental voice of Klon, who had said he was newly-come from Aarl.

From Aarl? Memory began to rush over me, memory that was heartbreakingly vivid.

I remembered Aarl! I remembered our world of supernal beauty and splendor that lay far, far across the cosmos from this drab, heavy little world Earth.

Aarl, world not of solid matter but of free electrons, floating like a glorious sphere of light in the glare of a great white sun! Aarl, wondrous globe of ever-shifting color, light and beauty!

And I was an Aarlan! I was one of the race that had evolved there as individual, intelligent photon-groups—immaterial photon-beings living immortally in our radiant, ethereal world!

"Comrade, I sense your trouble of spirit!" came the cry of Klon. "What is wrong?"

"You have just come from Aarl, you say?" I cried. "You must go back there, back to Aarl before you are trapped on this world!"

"Are you mad, comrade?" he asked wonderingly. "Why should I leave when I have come to gather new experiences on this world?"

To gather new experiences? Yes, that was the passion of all us immortal Aarlans. For ages, beating our way out through the cosmos on streams of light, we had visited other worlds. We had entered the bodies of their material creatures and had lived there with them in peaceful symbiosis, garnering many rich new experiences.

And that was why we had come to this planet Earth, long ago. How well I remembered now that I, T'Shal, had been one of that very band of Aarlans who first had visited this planet!

"This world Earth must yield fascinating experiences," Klon was saying. "For no Aarlan who came here has ever yet returned."

"You do not understand!" I cried. "When we came here first, we picked a species of ape-creature as the most suitable symbiotic partners and entered their brains in the usual way. We intended only our customary temporary stay.

"But we were disastrously entrapped! This ape-species has no true intelligence, but they have instincts of surpassing nervous intensity—instincts of greed and lust and hatred. And that bestial nervous influence warped the symbiosis we intended, distorted our own intelligence, inhibited our thinking until we forgot all about Aarl!

"Yes, we forgot Aarl, forgot our own identities and thought of ourselves only as the minds of these ape-like creatures! And each of us, when his symbiotic partner died, remained so dazed and drugged that he merely drifted on to another ape-host, another partner."

Klon's horrified thought came. "But then why is it that you are able to remember now, T'Shal?"

"Because the shock of force that released me from my ape-host dissolved the inhibiting effect and made full memory return to me!" I told him.

"What are we to do?" cried Klon. "Always, we have supposed that symbiosis with these Earth-creatures must be richly rapturous,

since no Aarlan ever returned from here. Aarlans have come here in millions for that reason, and more will come!"

"No more must come!" I told him. "You and I will return at once to Aarl to warn all our race of the horrible trap of Earth. At least we will be able to prevent any more of our race from coming here."

I added, "And before we leave, I will make an effort to save all the millions of us who remain trapped here in the dazing symbiosis with the ape-creatures. If I could make them all remember their true identity, they might be able to break free of this bondage."

THAT is why I, T'Shal of Aarl, am utilizing the photoelectric signaling device to send back this last message before I leave Earth forever.

You who are listening to my signals, Dixon and Burke! You others who will read this account when it is published to the world as I beg them to do—all of you, heed my plea!

You are not Earthmen, as you think. Your brute bodies belong to Earth, but that within you which is the real "you" has no connection with this planet.

You are Aarlans, members of the greatest and most glorious race in the cosmos, immortal individuals trapped by chance in the bodies of brute beasts here!

Try to remember, you who read these words! Try to remember Aarl, our glorious world of ethereal radiance from which you yourself came long ago.

Break free from this sordid symbiosis and come home! Come home from Earth! Come home across the cosmos to the undying beauty and wonder and peace of your own native world!

THE READER SPEAKS

(Continued from page 8)

surface of the planets that move around the sun.

Feeling that he is being coddled, Weston is resentful of his assignment until, when at last he runs down Jordan Green, he discovers that the fate of the entire universe has been riding as an invisible stowaway in his specially equipped one-man space-ship. A human and exciting yarn, throughout, it rises to a totally unexpected and truly breath-taking climax.

With these three unusual stories will go, of course, a full galaxy of shorter tales by authors as well known as those of the novel and novelets. And also on hand will be your not-so-humble servant with his crew of snipers and land-mine planters. Better be on hand.

LETTERS FROM READERS

CHAD OLIVER rates first place on the letters-from-readers portion of this stalagmite, if only in self-defense—and perhaps by way of pointing out his impregnability he writes on Coast Artillery stationery from Fort Crocket, Texas. He lets go with quite a salvo in fact.

AZIMUTH ON THE SARGE
by Chad Oliver

Dear Sarge: After the rather cutting inferences made by the old editorial axe upon Joe Kennedy and myself, it may seem surprising that once again you are reading from a "hack supreme". But I intend to defend myself, whether or no anyone but yourself ever reads this note.

Of course, it is a very trivial matter. But I happen to resent the remark that Guerry Brown was "emulating" yours truly in his admittedly gruesome letter. I may have written some stinkers. Sarge, but I was always sincere in whatever criticism I made, and I never devoted an entire letter to the old dashed-madly-down-to-the-newsstand-and-snatched-TWS-from-a-little-old-blind-man corn.

I also think that your jumping on people who wrote in to you without any possible knowledge of the change that had taken place was uncalled for. So much for the letter situation. Leave us proceed to more pleasant topics. The stories in the Fall TWS, for instance. They were the best in eons.

Keith Hammond's *Call Him Demon* was tops this time. It reminded me somehow of Theodore Sturgeon's *It*, and also of some of Ray Bradbury's fine work, but was different from either. I especially liked the presentation of the yarn from the viewpoint of children—a very refreshing touch.—*1311 25th Street, Galveston, Texas.*

As a staunch supporter of Old Man Saturn, Chad, you have an apology coming. Incidentally, thanks for the swell comment on CALL HIM DEMON by Hammond. It set us up no end, if only because we know you *are* sincere. You also have an explanation coming, but before you get it, we're going to run another letter which falls into the bracket alongside your own.

BUSHWHACKED!
by Tom Jewett

Dear Sarge: I am squelched! You may put it in caps. I AM SQUELCHED! I shall nevermore manipulate my "tripe" writer as such! However, since I am unused to being kicked in the britches while stooping over to retrieve a dropped TWS, I shall now kick back.

Firstly, I was commenting on the Spring TWS, before you contemplated changing your spots. Secondly, you announced said change in the Summer *Startling.*

Thirdly, I rather dislike the idea of holding a letter over just to make a point.

I am sure we all compliment you on your fortitude in changing your view-point, but DON'T do it at the expense of unknowing letter-writers. After all, it's WE, the buyers, who keep you at your editorial desk. Consider YOURSELF squelched!

Now to the business at hand: CALL HIM DEMON by Keith Hammond is in first place. This is really good! The idea of children protecting adults is fascinating in itself. Hammond really did a bang-up job on this!

Second is "Pocket Universes". Brilliant idea, well thought-out, well written. Third are "Never The Twain Shall Meet" and "The Multillionth Chance". Sterling's yarn was only fair. Ditto for Fearn's. Fourth were "The Good Egg" and "The Little Things." Rocklynne's tale was below par, and Kuttner's story seemed like an old reject.

Last, and most certainly least, is "Tubby—etc."

The Reader Speaks is getting better each ish.—*670 George Street, Clyde, Ohio.*

Okay, Tom, okay. And you too, Chad. The Sarge is sorry, really he is. But the change had to be made sometime and no matter when it was made some of you among the faithful were bound to get caught in the proverbial middle. I'm only glad the usually late Joe Kennedy didn't choose to write in at just that time. There would probably be a grulzak sitting at the Sarge's desk by now if he had.

Thanks for nice letters, both of you.

VOICE FROM THE BEYOND
by Paul Carter

Dear Sarge: In writing this letter I am breaking a silence of something over two years—but the step which you have taken in the reader's column demands comment. Sergeant Saturn had long outlived his heyday, and your action of curbing his outbursts shows that you have at least half an ear inclined to reader-opinion.

In '41 and '42 I was one of the most vociferous of Saturn's Satellites. Much has happened since then to that entire crop of readers, and it is evident that very, very few of those fans, who were writing to "Dear Sarge" in those days, are doing so now. We are all a little older, the Sergeant included, and *The Reader Speaks*, as it has been, is not in step with the rest of the magazine.

Your answer to the reader who complained of the cover—"fold your inhibitions under your arm instead of T.W.S."—was well put, but aren't you still overlooking something? I don't believe most of us object to the scantily-clad females on the cover—but why do they always have to be pictured in terror?

The best thing in the current T.W.S. is the tale "Call Him Demon." It is good to see that you are discovering the possibilities of child psychology in science and fantasy fiction. There's a lot more to this yarn than meets the eye.

My father also read the story, and we came up with two radically different interpretations. I took it that the monster was an actual intruder from Outside, seen by the children because their heads were not so full of worldly (i.e. three-dimensional) knowledge; he thought that the Wrong Uncle was merely a perverted being and the children rationalized "Ruggedo," etc., out of juvenile logic. Do you have anything to say on this?

One last word—it was indeed a glad sight to see a full-page Finlay illustrating "Call Him Demon," and let's hope it is only the first of a flood. Virgil Finlay is one of the two or three contemporary stf illustrators who can really be called an artist.—*Box 34, Hampden, Maine.*

Mr. Carter gives us considerable to chew on. He senses the reasons behind our change in policy quite thoroughly and we are glad the change meets with his approval—though he apparently wants to eliminate us altogether, which anyone can plainly see by reading between the lines.

As for the shell-shocked wenches on the covers, the Sarge has long-since thrown in the sponge. Perhaps a rough paper to simulate gooseflesh might add a vestige of reality, but who wants reality in STF anyway—except as an illusion? Besides, how would you look if you looked a BEM in the eye?

The divergent views of Carters Senior and Junior on CALL HIM DEMON offer intriguing possibilities. Perhaps some of you other Hammond enthusiasts would care to venture an opinion on the subject. There are a number of further interpretations which the Sarge has yet to see expressed in the mail.

Yes, more Finlay is coming. Quite a number of illustrations for soon-to-appear stories, done by the maestro in his very best form, have passed the Sarge's desk. The one in question came from Honolulu during the war.

THE SARGE CAUGHT SHORT
by Gerry de la Ree

Dear Sarge: The Fall issue of TWS hit the local stands today and it was great news to learn that Xeno and assorted subjects will no longer comprise 90% of the readers' section. I imagine more than one fan will miss the old patter, but you won't hear any complaints from this quarter. Congratulations!

I'm glad you published my Weinbaum letter, although I was disappointed to learn that an all-SGW issue of TWS or STARTLING is not in the offing. You did, however, keep my hopes high by mentioning that Weinbaum's works might be published as a separate venture. When and if you ever reach the stage where an annual can be published, perhaps then the works of Weinbaum will be reprinted.

I know for a fact that a good many younger fans would like very much to read "The Black Flame", published in the first issue of STARTLING. Incidentally, I don't want to argue, but only six of Weinbaum's shorts have been reprinted in SS, not 11 as you mistakenly mentioned.

Finlay's illustration for "Call Him Demon" was a honey. Ross Rocklynne has done considerably better than "The Good Egg", which lacked something.

Recently I dug out the issue of TWS containing Hamilton's "Forgotten World" and read the story. It was surprisingly good, more yarns of similar quality would help your magazine considerably.—*9 Bogert Place, Westwood, New Jersey.*

Where the Sarge ever got that magical number of *eleven* for the number of Weinbaum shorts in our possession, he will never know. The total, upon recapitulation, *is* six—and we've done right by all of them, Gerry. As for that dreamed-of all-Weinbaum issue, it's still a mirage. FORGOTTEN WORLD was a very good story. We're glad you liked it. Drop us a line more often, now you've begun.

DRIVEL JUICE
by Alvin R. Brown

Dear Sarge: It seems that an editor has finally listened to the voice of the fans. Permit me to congratulate you on dropping the juvenile drivel from the

Reader Speaks. If any single thing needed to be improved, it was your commentaries.

It seems as if TWS will never change. The cover once again follows that age-old pattern of the half-nude female threatened by monsters. Top story of the issue is Leinster's POCKET UNIVERSES. The old master has come through with a yarn that does him justice. I hope his sequel is equally good.

Number Two, well—give it to Hammond's CALL HIM DEMON. Personally, I feel that Author Hammond lost his plot for a spell and the story seemed to be a bit disjointed in spots. Three is Fearn's THE MULTILIONTH CHANCE. Where have I read this before? The rest of the yarns were—it is with deep regret that I notice two fine writers on the bottom of the pile, namely Rocklynne and Kuttner. What hit these guys this month?

Amazingly enough, the art work for the most part was excellent. Finlay was tops; Marchioni wasn't too bad; Morey should go back to his comic books; and Parkhurst should become a dishwasher.

For Gerry de la Ree's attention—I believe that in 1938 or '39 (I'm sure of the book but not the date) a Weinbaum Memorial was published. Hunter, I see, is wailing for a return to the good old daze, at least in the letter column. I hope some of them show up too. Might be interesting to see how much they've changed. —*139-29 34th Road, Flushing, New York.*

Why the campaign against monsters, Alvin? We like 'em, but not nearly as well as the odalesque ladies they incessantly threaten. For Hunter's satisfaction, fanhacks Oliver and Pace are among those present this issue.

FEARNATIC
by Paul F. Anderson

Dear Sarge: Certainly some of the finest and some of the most depressing science-fiction is finding space in your puzzling half-'n-half magazine. In the Fall, 1946 issue, for example, you print a hungry, hackneyed, ghastly mistake like *The Multillionth Chance*. The *Good Egg*, in the same issue, belongs in the comics. Ross Rocklynne is usually excellent otherwise.

But then!

Then! . . . And with Virgil Finlay illustrations! *Call Him Demon* is the best fantastic of the year. How did you swing the thing, Sarge? Gad, man, congrats! It's perfect. *Never the Twain Shall Meet* I'll ignore, and thus remain sane. *Pocket Universes* and *The Little Things* are both better than average. That Tubby thing of Cummings' is nice, but sort of dumb. The change in your reader's department pleases me. The change in you, Sarge, pleases me. That Xeno shall henceforth be prohibited pleases me. I've had hangovers after every issue up till now. Really, your magazine is close to the top in its field.—*6702 Windsor Avenue, Berwyn, Illinois.*

My goodness, Paul, old man, old man, how you do go on. Ye Sarge only hopes you're right. As for the erraticity of the shorts, we have to take the best we can get and run ditto. Opinion on the Fearn epos was varied, with yours perhaps the variedest. Oh, well, there is nothing more mediocre than perfection.

TONED DOWN
by Jimmy Wheaton

Dear Sarge: You almost broke my heart when I read that you had foully done away with your satellites. I had actually gotten to like the playful little monstrosities. Oh, well, perhaps it's for the better. I don't think they enjoyed Earthly life very much. And now with the acute shortage of Xeno, it really would have been intolerable. I shall shed a few tears for them tonight.

The cover on this issue was the sort of cover that *should* be on an stf mag. Congratulate Bergey for me. TWS is rapidly progressing, for the better, of course. Keep it up!

Even the stories were pretty good. The MULTILIONTH CHANCE was good, tho it could have been longer.

CALL HIM DEMON was a good story, but of course, can not be considered as science-fiction. I didn't know that Hammond could write weird stuff like that. Very good.

POCKET UNIVERSES also was good. (Gosh, I haven't come to a story that I can pan yet.)

THE GOOD EGG. Hmmm. Pretty average plot dressed up a bit.

NEVER THE TWAIN SHALL MEET. Good story, well written.

THE LITTLE THINGS. Kuttner does it again. Where he digs up these plots, I can't imagine. It was good, though.

TUBBY—MASTER OF THE ATOM. You could have used the space better.

THE READER SPEAKS. I guess this is about the end of the sparkling wit and humor so prominent in this department. You may have noticed that I have toned this letter down considerably. Ah, me, for the good old days!—*23 Montclair Avenue, Verona, New Jersey.*

The Sarge hereby presents you with Wart-ears, Frogeyes and Snaggletooth along with the remnants of his Xeno-cellar. So if you get a quadruple knock on your door one of these chilly evenings, you won't reach for the family blunderbuss and start blasting. You can have 'em! ! !

It's funny, nobody ever talked about the "sparkling wit and humor" in this department before (do I hear anyone talking about it now?). But merely because we have removed the spirit gum and crepe hair, don't get ideas that it's safe to take liberties with your Sarge. He's apt to sound off at any hour of the twenty-four, on or off the hour, given insufficient provocation.

We may not sparkle so much, but there is still an evil gleam in our eye.

EBEY JEEBIE
by George Ebey

Dear Sarge: I have devoted a good deal of profound study to that lush brunette, turning the mag this way and that to catch the play of lights and shadows and stuff. Most of all the gal's expression intrigues me: is it terror or ecstasy? I'd say three to one on the latter —one thing's for sure: that happy hoyden seems to be having the time of her life and I don't care *what* the story says.

"The Multillionth Chance" by old timer Fearn. Not much to rave about here.

"The Good Egg" by Ross Rocklynne. This one is not good, not bad and moves along nicely, giving the effect of a well made custard pudding.

"Call Him Demon" by Keith Hammond. Ah! This is worth consideration. The style is mature and suspenseful, there is decent characterization, and by Cthlhu, Hammond can write honest fantasy.

"Never the Twain Shall Meet" by Brett Sterling. Tell Sterling to soak his head in a bucket of stale beer.

"Pocket Universe" by Murray Leinster. Leinster has evidently made good his comeback—though this novelette is a throwback to his earlier style.

"The Little Things," by Henry Kuttner. Potentially the best story in the issue; Kuttner had a fine idea here.

"Tubby—Master of the Atom" by Ray Cummings. I'm sorry. I just can't read the Cummings' story.

The big news in the *Reader Speaks* is the amphorous

change in Sarge Saturn. I say amphorous because while the clowning has stopped there doesn't seem to be anything to take its place—like a clown removing a mask and revealing the bare outlines of face. At any rate I predict that the fans will come into line in short order—they have the trained seal reflex down pat.—*4766 Reinhardt Drive, Oakland 2, California.*

Reader-critic Ebey is nothing if not outspoken. Gee whiz! Wonder what he looks like with *his* mask off—Bela Lugosi? Those fans who wish us to throw him a sardine or two will kindly slap their flippers against their flanks.

A BOOST FOR CHAD AND JOKE
by Garvin Berry

Dear Sgt. Vitriolic Venom: Well, I must admit that you've completely reformed the blowsy hedonist who formerly graced these columns. However a quick glance at the sardonic Mephistophelian ego-buster who replaces him almost makes me homesick for the old comfortable Xeno-filled atmosphere.

I resent though your naming Kennedy and Oliver as the chief "maize maniacs". They both have fascinating and highly individualistic styles, which less capable letter-hacks tried unsuccessfully to emulate. These pseudo-Chads and Jokes were the ones who really earned the contempt that Sgt. Saturn received. How about soliciting letters from Oliver and Kennedy defending themselves?

The Fall issue was the best I've seen since my discharge last spring. Bergey finally toned down his garish colors and did a very good cover. And you really leaped light years in my regard by presenting the first post-war Finlay work. Congratulations!

CALL HIM DEMON was the best fantasy, and the best TWS yarn I've seen in months. I may sound enthusiastic, but this yarn comes near the elusive classic level as far as I'm concerned.

I see Fearn uses carbon paper while writing; at least his novel is a replica of his RED HERITAGE published in '38. Anyway he copies his OWN stuff.

Sterling's short is a brilliant variation upon a not yet overworked theme. The possibilities of a mixed Solar System are intriguing.

Rocklynne was amusing; Leinster surprisingly poor for once in his epic-filled career; the rest were filler material or worse. Or worse means Tubby in this case.

I appreciated your denunciation of fans who "malodorously" compare authors. Esp. guilty are the boys who berate authors, such as HPL, from their tremendous knowledge gleaned from the reading of one yarn. Of course, these anti-Cthulhu lads were contributing their little bit to an equally wacky mythology: that of Sgt. Saturn and the Bemlins. I'd always felt personally that yelling "Ia! Shub-niggurath!" was far more dignified than rating story values in terms of Xeno jugs, although both are somewhat futile pastimes. Oh, well, both are done for now, I hope.—*5416 Ave. R, Galveston, Texas.*

Amusing coincidence—Brother Berry lives in Galveston, so does Oliver. Does one suppose the twain ever meet? Smacks of collusion to us. However, we quite agree that the two in question have suffered more from

[*Turn page*]

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their imitators than they deserve. But, Brother Berry, I give you Lovecraft without charge—am actually considering paying you to take him, a purely nominal fee, of course.

DOWNEY COUVERING
by John Van Couvering

Dear Sarge: Congratulations are in order for your new, king-size personality and your new, k-s fall ish. And, while you're making improvements, cast your bloodshot eyes over this chest-lightening list.

1. Put "The Reader Speaks" in a separate section of the mag.

2. Bring back Pete Manx. Bring back Gerry Carlyle. And, f'evven's sake, bring back Brackett!!

3. Notice you've got Finlay. Bergey on the cover, Finley on the novel, Stevens on the novelettes, and Parkhurst on the shorts—*that's* how it should be. Does Marchioni's uncle own the mortgage?

Now for the Fall ish.

THE MULTILLIONTH CHANCE. Phooey. I've seen better twists in a pig's tail.

THE GOOD EGG. Rocklynne really outdid himself on this, even if it was a short. Bravo!

CALL HIM DEMON. Say now you're really talking! This little gem is one of the most adult, and, as such, the most (for me) mystifying piece of literature to appear in TWS for, O, AGES!

NEVER THE TWAIN SHALL MEET. Another piperoo.

POCKET UNIVERSES. Looks like Leinster has struck pay dirt this time. Hope the sequel is as good as the first.

THE LITTLE THINGS. Oh, Henry! Just as I was beginning to think you had a readable mag, wot did you go and do but dump this pointless piece of garbage down our unsuspecting throats?

TUBBY——MASTER OF THE ATOM. Egad! What have we done to deserve this?

Kidding aside, the Fall ish is really superior to any and all before. Keep up the GOOD work.—*902 N. Downey Avenue, Downey, California.*

Well, you call 'em as you see 'em, Johnny. Perhaps you'd like to have THE READER SPEAKS in a separate magazine. If you can raise the bankroll to publish it, we'll go along.

SNEARY IS CHEERY
by Rick Sneary

Dear Sargent Saturn: To my mind the Fall Issue of TWS had the best Reader Speaks in years, and you are mainly responsible. Hooray for the New Sarge.

And now to the mag and the ever present cover. I fear I have little to find fault with this time. My first thought about the inside art was, "Gee! Finlay's back." It was simply out of this round old World.

Finlay couldn't have illustrated a better story. "Call Him Demon" was the best in this issue, and the best fantasy in many months. I am sort of sorry to see the old Space Operas go, but if you give us a few like this I will be happy. The only point I didn't understand was why the false Uncle didn't get meat for the "*thing*".

Next was a toss-up between "Pocket Universes" and "Good Egg". The rest of the stories were just fair.

THE READER SPEAKS. So the old biff-bang, punish type of letters is going too. Another hooray. The first person I agreed with was Tom Jewett saying you should give your artist by-lines. Your remarks about Hunter's letter were interesting. So Rick Sneary is a "regular", an "old guard". I'm honored. There are some that will dispute it, but thanks anyway.—*2962 Santa Ana St., South Gate, California.*

Well, Rick, old guardsman, the false Uncle was just a protection—remember? He never did leave the house, and if he had raided the ice-box too heartily he would have exposed himself. As to giving our illustrators by-lines, it has never been done either in TWS, SS or any of the forty-odd companion magazines these two sterling (not Brett, thank you) STF magazines admit to. Besides, isn't it more fun to guess?

SQUAWK FROM VANCOUVER
by Bob Bowman

Dear Sarge: Why did you do it, Sarge? You used to have one of the best readers' pages in STF. Now it's just a replica of all the rest. . . . As for the issue, Bergey has outdone himself, Finlay was superb and I was glad to see Parkhurst.

As for the stories, Sarge, congratulations—what a line-up! Kuttner comes first with THE LITTLE THINGS. The others, in order of preference, are Hammond, Leinster, Fearn, Rocklynne, Sterling and Cummings. I thought Tubby had been buried and forgotten long ago. CALL HIM DEMON was excellent and Rocklynne's story was good for a change. . . . I'll close with one final plea—don't get too serious, please! —*1340 St. George's Avenue, North Vancouver, British Columbia.*

At that the Sarge is glad somebody liked the old Sarge. He had his moments.

SIDE-POCKETED
by Pat J. Bowling

Dear Sarge: Hurray! No double-talk this issue and what a relief. Now I can understand what you're saying.

Now for the stories. On the whole very good. I really enjoyed the entire issue this time, with a couple of exceptions. You'll see what I mean in a minute.

POCKET UNIVERSES by Murray Leinster was very good! Unusual among the unusual. There was, however, an error, I think. On page 83 it says, ". . . So I have placed it (documents) in the small universe-generator I made for the mouse experiment . . . including the one for burglary—will go into the enclosed space with me for one-half of a second."

On page 83, bottom, ". . . there was the little thing he'd made for his mouse experiment. That was on its stand, too, and that hasn't turned off either."

The statements I quoted are contradictory. Just where was the universe-generator, the small one, with Santos in the large pocket universe, or in the laboratory?

This is another of those stories that leave a number of unanswered questions. For instance, what happened to Santos? What was it like inside of the pocket universe? Does Santos ever come back?

How about having Leinster write a sequel concerning life on the inside of a pocket universe.

All in all, Sarge, old bean, it was a good issue. Keep up the good work.—*137 Eads Avenue, San Antonio, Texas.*

If Leinster's sequel to POCKET UNIVERSES, THE END, failed to clear up any of your muzziness, Pat, you'd better write Leinster himself. When he gets started on his ingeniously inverted logic, he's much too fast for the Sarge. By the way, whatever did happen to Santos?

CLARION CALL FROM PHILADELPHIA
by Robert A. Madle

Dear Sarge: All readers of TWS residing in or around Philly are cordially invited to join up with

the local fan group, the Philadelphia Science Fiction Society. The PSFS is one of the largest fan groups of them all, and boasts such "names" as L. Sprague de Camp, A. M. Phillips, Lee Gregor, Milton A. Rothman, Oswald Train, etc. In recent months the membership has increased to such an extent that it has been deemed necessary to rent our own clubroom. Meetings are now held every other Sunday evening at our new location, 56th and Pine Streets. Dues are but 50c a month. Why not stop around and chew the fat with a bunch of kindred souls.

Perhaps the primary reason for this letter is to announce that the PSFS will sponsor the World Science Fiction Convention of 1947. All fandom is invited to cooperate in this endeavor. For this reason, The Philcon Society has been formed. This is the official convention society. All readers, fans, collectors, authors—even the ol' Sarge—are requested to join.

Dues are $1 and for this buck members will receive all pre-convention booklets, propaganda, stickers, etc. Also, a copy of the convention program booklet goes with the deal. Members of The Philcon Society, whether they attend the convention or not, will realize that they are contributing materially to the success of the 5th World Science Fiction Convention—The Philcon!

Philadelphia in 1947!—*Robert A. Madle, secretary, PSFS, 1366 E. Columbia Ave., Phila., 25, Pa.*

Okay, Robert, count us in.

NOW WE ARE MANY
by R. Ward

Gentlemen: Yes, I said gentlemen. And it gives an infinite amount of unspeakable pleasure to greet you with such dignity. Sure, I know you haven't downed that horrid title yet, but I say do it, and do it now. Sergeant Saturn is just as blatant and unpleasantly outstanding as this "space-lingo" was.

On to the Fall Issue. In the ratings below I employ

[*Turn page*]

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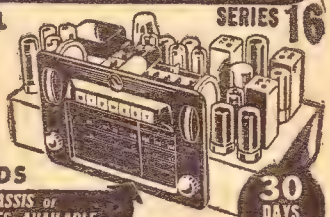

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the finest way of rating that there is. The 10-1 system. Here we go:

1. Murray Leinster, one of my five favorite authors comes in with a very honorable 7.5, the best that you can get, except 10.0.
2. "The Multillionth Chance". I'll give a 6.5 to the versatile author for a very entertaining tale.
3. "Call Him Demon" by Keith Hammond. Hammond writes a lot like Kuttner. "Call Him Demon" is well worth a 6.0.
4. Ross Rocklynne's "The Good Egg" is the best in humor for a long time. Give it a 5.0 average.
5. Well what do you know! Brett Sterling is back! "Never the Twain Shall Meet" is a nice little short, and I'll present it with a 4.5.
6. "The Little Things" by my old standby Hank Kuttner was also good. I think I'll give it a 4.5, same as Sterling's.
7. Is Ray Cummings' latest "Tubby". The reason I put this last is because I never did like the Tubby Yarns. 3.0.

And now The Cover! Bergey's painting is definitely the best since the September 1940 issue of *Thrilling Wonder Stories*. And that's saying something.

Best inside illustration was of course Virgil Finlay's on page 47 for "Call Him Demon". That fellow sure can draw! No other artist can match his inimitable "bubble bath" style of painting.

That's it for this time. The magazine has improved prodigiously with the stopping of . . . certain things. —*El Segundo, California.*

A nice letter, R., especially the bit about Finlay's "Bubble bath" style of painting—drawing, rather, if you'll pardon an ever-so-slight correction from the Sarge you love to blow-torch. Why not break down and take out your bobby pins and let us know what that initial R. stands for? Huh, how about it?

MUTTER FROM UTTER

by Virgil S. Utter

Dear Sarge: Many months ago, before I went into the Service, I was corresponding with one Chad Oliver. One of his pet likes and one of my pet hates was one Henry Kuttner. All that has changed, due mostly to the fine fantasies he's done of late for the TWS-SS Twins.

Mr. Oliver, I salute your judgment and foresight. You were indeed right when you prophesied that Kuttner was on his way up. Such stories as *Sword of Tomorrow*, *The Dark World* and *The Little Things* have convinced me that he is fast reaching a peak of perfection which will make all the other nobles of the STF writing profession look like pikers.

Another of your writers who is making a name for

himself (all over again) Murray Leinster is definitely next on my list. His recent yarns, *Dead City* and *The Disciplinary Circuit* are tops in a field where *writing* instead of a new plot twist counts. These stories will eventually become classics, I feel certain.

As for your change of policy concerning letters, Sarge, that appears to be a good omen, also; at last you have come to realize the general maturity of your readers.

The Fall issue of TWS was a pretty swell number. The idea of Call Him Demon seemed to stem from one of Kuttner's classics, *Mimsy Were the Borogoves*, but it was well handled to the very last word. Another laurel for Kuttner via Keith Hammond.

The two best stories, then, were Kuttner's and Hammond's, with Leinster's running a close third. Others were good, but not up to the standard you've set for yourself.—*Milner Hotel, 117 4th Street, San Francisco, 3, California.*

"Any booster of Kuttner's is a pal of ours"—Sergeant Saturn (circa 1942-3-4-5-6-7).

OUR BLOODSHOT ORB!
by Frances Moorehead

Sergeant Saturn: My invariable habit on opening TWS was to turn to THE READER SPEAKS, simply because it was unique in letter departments. It is not now. You seem to have the felicitous ability to create a character which was so believable that I feel compelled to rise to his defense. If you will excuse what is intended as criticism and not insult, your new column sounds like the vaporings of a dyspeptic.

I grant that about fifty percent of past letters published have obviously been the work of callow exhibitionists with all the restraint of young puppies. But I may as well confess that such letters with their belabored humor, trite phrases and hackneyed criticism have caused an occasional chuckle. Above all I enjoyed the pithy comments of the Sarge, comments which were much more spontaneous than they now are. . . .

As was intimated in your last issue, this is undoubtedly a minority opinion. So be it! The old Sarge (who seemed to have an eye for the ladies) would have replied to this in a genial vein. Old Aunty Saturn, who now wields the blue pencil, will doubtless crack me across the knuckles with it.—*Dayton, Washington.*

My Sainted Aunty! We don't use a blue pencil—we use a red one. Seriously, but with geniality unimpaired, this is the first intimation we ever received that the old Sarge had even a trace of sex appeal. Or is this eye for the ladies' thing strictly one way?

We have no intention of building this into a dyspeptic stele, Frances, and will reply to all letters published according to their mood, puns and sonnets still welcome. And here is one hunk of spontaneity—why do all the ladies who write in to us live at least half a continent away? Answer that, you femme fans!

PRACE FROM PACE
by Tom Pace

Dear Editor: So Sarge Saturn has gone . . . well, in view of TWS's steady climb to the top of the stf heap, a more mature letter column fits better. And the diet of tripe was beginning to pall . . . that from one of the tripiest!

Yes, Sarge . . . (are we still to call you that?) I think that Mr. Corley should be more careful about

[*Turn page*]

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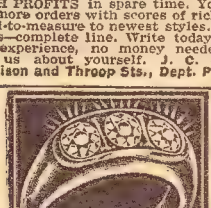

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the way he compares authors . . . for instance, his comparing Lovecraft to Leroy Yerxa or G. F. Fox . . . that, I believe, takes some kind of a cake. A *big* cake. . . .

Would you compare Glenn Davis, Buddy Young, Whizzer White or Charley Trippi to some first-string running guard for the Mudville (South Dakota) Bears?

Gene Hunter's old-days burble makes one wonder where all the boys went, for a fact . . . well, Gene, Pace is still raggedly wandering around.—*Brewster, Florida.*

You may be raggedly wandering around Tom old man, but you aren't wandering far afield when you land on Corley's monstrous comparisons. They were something, weren't they? Putting Yerxa in a class with Lovecraft—it's enough to make poor Yerxa turn in his typewriter in disgust.

POSTWAR FROM ENGLAND
by L. G. Street

Dear Sarge: After six years in the British Army I am anxious to resume a normal life, which includes reading THRILLING WONDER STORIES. I should be grateful if you would send me a few particulars as to how to obtain a subscription.

If the Science Fiction League is still in existence I should like to join. I hope that you will be able to do this for me.

As a phlegmatic Englishman, I think your yarns are grand. They take a lead in international thinking I am in favor of.—*20 Vine Road, Coxford, Southampton, Hampshire, England.*

TWS, like its companion magazine, STARTLING STORIES, costs $1.80 ($2.40 including foreign postage) for twelve issues, which we will gladly send to you on receipt of same via international money order. The League, alas, is now defunct. And as for taking a lead in international thinking, gee whiz!

SHORT BUT SWEET
by John P. Lee

Dear Sarge: Permit me to congratulate you on Keith Hammond's story, CALL HIM DEMON, in your fall issue. It was the best-written and the most adult story that I have ever read in your magazine.—*215 West 23d Street (room 16), New York 11, New York.*

Thanks. We thought so too.

JUNKED JUVENILIA
by Wilkie Conner

Dear Sergeant Saturn: Since you've junked the juvenile nonsense, your column has improved in interest 99 and 44/100%! Congratulations!

I have several things to say and I hope I can say them with clearness as well as brevity. First, I want to mention how well I like your policy of including fantasy along with your science-fiction. Well written fantasy is much more interesting than science-fiction anytime . . . to me, that is. Henry Kuttner is, according to my belief, your top writer.

I wish to commend you for not using reprints in TWS. We have writers today who are so far ahead of the old timers it is pitiful. Those old guys were great because they were working in a new field. Now, when those old stories are reprinted, they sound like a rehash you culled from your slush-pile, written by a ten year old.

Someday, I hope I can write you and thank you for running one of my stories. But after all, how could I compete with KUTTNER?—*Box 2392, West Gastonia, North Carolina.*

Perhaps, Wilkie, you are the type that thrives on competition—even with KUTTNER. So why not give us a try?

NON-WITCH FROM SALEM
by Doris Ebright

Dear Sarge: It seems to me your dear readers are a little bit overdoing it in their smearing of your authors. A little mud-slinging is all right but every letter is nothing but dirt. Could it be that they could do better?

As for me, I can't lay TWS down until I've read it from cover to cover. I have learned a lot from STF and have seen a lot of STF come to pass during the war. My friends have laughed at me because I read STF books, but I hope I shall be around when a trip to Mars is the thing. Then I'd have the last laugh on them.

To me the Fall issue was super from front to back. Just give us more and more of them. The waiting period in between books is too darned long.—*Rt. 4, Box 473-H, Salem, Oregon.*

The readers seem to be more kindly this time out, Doris, so perhaps you will not be quite so ruffled. And thanks for coming to our defense. See you at the spaceport on Mars.

BLAST FROM BIKINI
by Charles F. Ksanda

Dear Sarge: I thought you might be interested to know that at least one copy of Thrilling Wonder Stories has penetrated even to this outlandish place. My wife forwarded me a copy of the summer issue so that I could read Forever Is Today. It was nice to see it in published form, because it certainly has been quite a long time since you published my first story.

Forever Is Today represented a sort of personal rebirth, being the first story I had written with any intention of trying to sell since before the war. I had

[*Turn page*]

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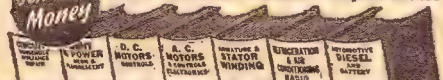

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STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACTS OF CONGRESS OF AUGUST 24, 1912, AND MARCH 3, 1933, of Thrilling Wonder Stories, published bi-monthly at New York, N. Y., for October 1, 1946. State of New York, County of New York, ss. Before me, a Notary Public in and for the State and county aforesaid, personally appeared H. L. Herbert, who, having been duly sworn according to law, deposes and says that he is the Business Manager of Thrilling Wonder Stories, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to wit: 1. That the names and addresses of the publisher, editor, managing editor, and business manager are: Publisher, Standard Magazines, Inc., 10 East 40th Street, New York, N. Y.; Editor, Harvey Burns, 10 East 40th Street, New York, N. Y.; Managing Editor, None; Business Manager, H. L. Herbert, 10 East 40th Street, New York, N. Y. 2. That the owner is: Standard Magazines, Inc., 10 East 40th Street, New York, N. Y.; N. L. Pines, 10 East 40th Street, New York, N. Y. 3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: None. 4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him. H. L. HERBERT, Business Manager. Sworn to and subscribed before me this 1st day of October, 1946. Eugene Wechsler, Notary Public. My commission expires March 30, 1948.

hoped to be able to follow it up, but then along came this atomic bomb business and a summer at Bikini Atoll, the climate and general atmosphere of which have not been too conducive to great creative activity.

In order not to be atypical, I shall rate the stories in the Summer Issue on the basis of the usual five-jug top system. My own story I give a little over two and a half jugs. Twilight Planet an even one and a half, and Zero one jug and a shot glass. Leinster's story I will give a little over two and a half jugs to also, because he writes nicely, but this one seemed to have a lot of padding and not too much else. Coblentz and Rocklynne I haven't read yet. All of which is not a great many jugs.

I am not one to tell other people how to conduct their business, but since this is a popular pastime among your readers I don't see why I shouldn't mention my own private irritations. Briefly, there are three things I should like to see vanish: the chorus girls, with their gravity-defying brassieres, on the covers, Sergeant Saturn himself and Mr. Marchioni.

I will readily admit that you surely must know more about your circulation than I and others who have griped about this subject and I will also admit that out here I gave a short low whistle to the cover girl, but out here a man can sink pretty low.—*Staff, CJTF-1, USS Kenneth Whiting, FPO, San Francisco.*

Perhaps this letter should have been called Test-S—for Saturn, in line with the terming of the other two atom-bomb tests Able and Baker. We hereby consider ourselves vaporized and intend to spend our new existence clouding Mr. Ksanda's shaving mirror every morning. We'll give him a five-o'clock shadow the like of which no man (or woman) has yet seen, even at 1705 hours.

HINGHAM STINGER

by Byron G. Ingalls, Jr.

Dear Sarge: It's about time that your conversational tactics in the Reader Speaks department changed. Of course, it is known and judged that better than 50% of the readers are still in their teens, and love to see their names in print, despite their lack of good taste or even good English in those afore-mentioned-gone-forever (we hope!) letters.

In regard to the Fall issue of TWS, it was a disappointment to me; I found two stories out of the six published only which are worthy of mention. They are "The Multillionth Chance and "Never the Twain Shall Meet."

Finlay's drawing for "Call Him Demon" was characteristically excellent. It's odd, isn't it, how Finlay's style resembles Lawrence's?

One suggestion: how about reviving the FACTS department which used to be in TWS? Oh, all right! What do I expect for fifteen cents—an encyclopedia? But it was only an idea! "Variety is the spice of life", AND literature, I may add.—*Hingham, Massachusetts.*

Well, every man is entitled to his own critical opinion, Byron, but we are greatly relieved to see that the majority of readers fail to agree with you on the story values in the Fall issue. Glad you liked the Finlay any-

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way. We'll revive the facts department whenever we get enough facts. And by the way, in that "Variety is the spice of life" statement of yours, you certainly coined a phrase —corned it up good in fact.

LOVE LETTER TO A BEMLIN

by Bob Crawford

To Snaggletooth; Somewhere in the Outer Regions of Space: Snaggletooth! What in the world have you done to Sarge's Xeno? Whilst cruising thru Fall TWS I ran across Sarge's most devilish scheme yet. Worse than the rough edges, worse than Bergey's covers, worse, even, than Kennedy's letters!

I could do without Sarge's Xeno. Even those Space-Warps of his (no reflection on your character, Snaggie). But to do without Space-lingo! Oh no! Sarge must be getting old and weak (in the head). Up until now, THE READER SPEAKS has been the best spot in the mag. And now. . . .

Ah well! The stories were exceptionally good. TWS has quite a roster of writers this ish; Fearn, Kuttner, Hammond, Leinster, etc. Makes a better than average ish.

Well, Snaggie, since I know you're anxious to get back to drowning your sorrows in Sarge's prime Xeno, I have but one thing more to say. It is unimportant, but it should be said. It shall. Move over.—*15 North 4th Street, Alhambra, California.*

Happy landings, Snaggletooth—and you too, Bob Crawford.

NON-LOVE LETTER FROM A BEMLIN

by Snaggletooth (Dick Roelofs)

My Dear Sergeant: I am deeply distressed at the news that the services of myself and my colleagues are neither needed or desired in the future. I am told that we are to be banished to the depths of outer space and are never more to show our horrid countenances within the covers of SS, TWS or the portals and air-locks of the good space-ship D. Lirium Tremens.

Be this as it may, I am disappointed in you.

Sergeant, as I sit here in my Neptunium-plated cell, I feel that I have lived in vain. I wish I had died before I saw EV and RS turned over to a flock of straight-faced kiwis. I probably will. And you on the Wagon! Well, time bringeth all things . . . but I'll be a Bowlegged Proton if I ever dreamed it'd bring this! Without the cracks about Xeno, the magazine is six pages shorter already!

But wait! Outside my force-shield I hear the tread of your minions. Quick, my watch . . . I've overstayed! My exile began an hour ago! I cannot escape, for at the back door lurks Earle Bergey, armed with a two-edged penpoint.

Goodbye, Sergeant Saturn, it is time. But . . . if this solemn drool in the letter boxes continues . . . I'll be back to haunt you Sergeant Saturn. . . . So help me . . . !—*513 North Garfield Street, Arlington, Virginia.*

And good riddance, says the Sarge. Haunt away—it's ineffective without Xeno.

THE WALTON TRUTH

by Bryce Walton

Dear Sergeant Saturn: I read the fall issue of Thrilling Wonder with considerable pleasure and growing amazement. It seems in a state of remarkable change, and all for the good.

Before I went overseas to fight for a bigger and better "Ether Vibrates" I listened to a lecture by a pro-

[*Turn page*]

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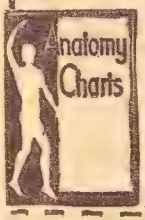

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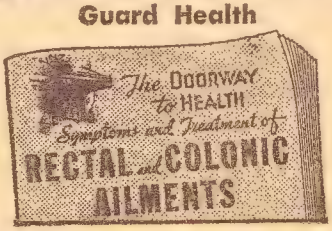

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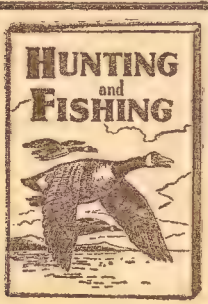

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fessor of English Literature and Psychology which I believe can be brought in here as an illustration. The lecturer was Dr. Joseph E. Johnston of the College of Los Angeles. And, believe it or not, the subject of Dr. Johnson's lecture was the Pulps. There was much not-too-dignified ohhing and awing and raising of eyebrows.

Dr. Johnston's lecture advanced his theory that the 'pulps' were a unique American innovation, that they were a proving ground not only for authors, but for off-trail ideas of the 'established' great. I won't repeat his lecture here but suffice to say—his talk was most laudatory. Also, naturally, the lecture was NOT received with any degree of sympathy, not that I could discover, anyway.

Which is all appropriate I believe to TW's new policy of more "mature" appeal to readers and writers. Slowly, not only to the discerning like Dr. Johnston, but to a vast field of readers, the idea that the pulp is a juvenile medium is being broken down. I can imagine the potential mature public frightened away, far away, by the former Etheric Vibrations in the readers' department of TWS, which to a psychologist must have resembled the erratic thought tracings of cerebral disrhythmia. It was fun while it lasted, but thank God, "It's time for a change."

Hand in hand with a renovated readers' department, came the indefatigable Mr. Kuttner's "The Little Things". I hope those obsessed with the idea that only a long stf story can possibly be interesting will pardon me for voting "The Little Things" as not only the best in the fall issue of TW, but also as one of the most adult fares offered to thirsting pseudo-intellectuals in a long time.

There remains now only the sometimes optimistic, many times pessimistic, but always frightening prospects of a future in which men's minds, not gadgets, will decide whether or not man survives. The philosophies and psychologies of the future are the material for stf—and it's a far more inexhaustible source than the mere physical objective stuff that's already been so thoroughly covered.—*4108 Marathon Street, Hollywood, California.*

To Author Walton, whose stories will soon appear in TWS and SS, thanks.

DREAM SARGE
by Frank Clark

Dear Sarge: The first real postwar dream has come true! The asinine, sophomorish Sergeant Saturn is gone! Let's give thanks to the spirit of Ghu!

I liked the fall issue of TWS, I honestly did. TWS is improving at an ever-accelerating pace. Some fan, I understand, is compiling a list of pen-names and author aliases. I'd like to get hold of a copy when it's completed. Can anyone help me?—*4 Arlington Avenue, Baldwin, New York.*

You won't get it from us, bub. We should give away trade secrets!

CHEERS FROM CHESTNUT STREET
by Charles Talbot

Dear Sergeant Saturn: HURRAH! HURRAH! HURRAH! Now all you have to do is clean up the covers and the fans should be satisfied for a while at least.—*229 Chestnut Street, Englewood, New Jersey.*

What's the matter, Chas—does the ink come off on your hands?

BRIEF BROWN
by Guerry Brown

Dear Sarge: Three cheers for your new policy! I for one will be glad to see it go to work. It is the first step up towards a new and better TWS.—*P. O. Box 1467, Delray Beach, Florida.*

Three cheers for you, too, Guerry.

CALL BILL DEMON
by Bill Searles

Dear Sarge: I had to write you because of your swell Fall issue. To Xeno, Frogeye, Wart-ears and Snaggletooth, good riddance. The Reader Speaks was the best reader's column in science-fictiondom, except for Xeno, Wart-ears, etc. Now it is the best, excepting nothing. You are the only one that I know of that gives an answer to every printed letter.

I'm not going to rate the stories because they are all swell. I liked "Call Him Demon" best because it's about kids like me. I liked the references to the Oz books and Jungle books. They are my favorites.

Ah, we come to the much improved Reader Speaks. This looks like developing into a good fight about Lovecraft. Let's have a free-for-all.

This is your twelve year old fan saying goodbye until next issue, (which looks swell).—*220 Almeria Road, West Palm Beach, Fla.*

Okay—let's have more trouble with Lovecraft. You all know the Sarge's position—he's against. Not against HPL as a pseudo Bulwer-Lytton, but against him as a fall-down-on-the-puss-in-front-of-and-worship idol.

NOT IN A HURRY
by Robert A. Bradley

Dear Sarge: The horrible part of TWS was what the Readers Spoke about in the back of the book.

[*Turn page*]

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By GEORGE O. SMITH

THE GREGORY CIRCLE
A Novelet of a World in Turmoil
By WILLIAM FITZGERALD

Now that the era of Reformation is upon us I would like to strengthen the hand of the bewildered Sarge in his determination to begin a new life.

What applies to the Sarge applies also to the Readers. Two or three commentaries on the stories should be enough to represent all of them. Throw in a few of the barbed-wire variety in order to make the reader think for himself. Add a few that seek answers to puzzling questions, and spice up the entire column with anything that sounds interesting.

To my notion the general run of theories embraced by the stories (in the Fall Issue) are within the limits of possibility.

There are, today, a thousand or more things we already know how to construct if we could only think of a way in which to use them—in peace, or in war. It is altogether possible that our only reason for not having instantaneous transportation to distant places today is that we are not mentally prepared to make such a journey.

Frankly I'm not in that big a hurry.—*82 Westminster Drive, N. E., Atlanta, Georgia.*

Okay, Robert, you've advanced an interesting theory—on our inability to apply the gadgets our ingenuity has discovered for us. Certainly the good old atom bomb is the living proof of your supposition. Let's hear from some of the rest of you as to how we could apply our self-made blessings more rapidly and beneficently.

SHRILL VOICE OF REACTION
by Jim Kennedy

Dear Sarge: Are you trying to ruin your magazine? What's the idea of cutting out Xeno, Frogeyes and company, and most of all space lingo. Who's the wise guy that made you do this? What's the matter, are they crazy or something? Why that's the best part of the book. It's like losing an old friend.

I notice now that you have cut your number of special features down to two. I can remember the time when there were more articles than there were stories. But as time went on you began to cut out more and more articles. What is this magazine coming to? Are such articles as Thrills of Science, Scientifacts, etc., lost forever?—*373 Hamilton Street, Redding, California.*

Well, you've cast your die—and we fear you'll have to dye it. As for the features whose evanescence you lament, Jim, they were pretty universally lambasted—and now THE READER SPEAKS has pretty well crowded them out of the book. It will take a real fandemand to bring them back.

OUCH!
by S. Vernon McDaniel

Dear Mr. Saturn: I'd rather not say anything about The Reader Speaks. I am completely disappointed. I miss Ye Olde Sarge. It seems to me that you haven't been quite fair in your choice of personalities. I will now prove that most fans want your Olde Sargey

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back! I will use the last three issues of TWS for my poll.

Here goes—

	Spring	Summer	Fall	Total
(1) Letters from readers who like the old sarge	5	9	7	21
(2) Letters from readers who want the new (and morbid) sarge	1	0	1	2
(3) Letters from readers who are neutral and don't mind either way	4	4	7	15

So you see 21 out of 38 readers want the old and slaphappy sarge. That, in elementary mathematics, is the majority. So—Why the change? The Democratic principles of TWS are at stake, sarge, and the majority rules!—*816 Soledad Avenue, Santa Barbara, California.*

Put the count on the letters in this issue, S., and you'll begin to get the well-known why and wherefore of said alteration in ye Sarge's personality.

All in all in all in all, we feel grateful for the support the great plurality of fandom has given the new Sarge. And thanks again for the increase in the number of letters. Let's have more and more and more and on every scientifictionally controversial subject you ladies and gentlemen think of.

The Sarge may be stripped of his bemlins, Xeno and space lingo, but he still loves a knock-down and drag-out fight. Here's looking at you!

—SERGEANT SATURN.

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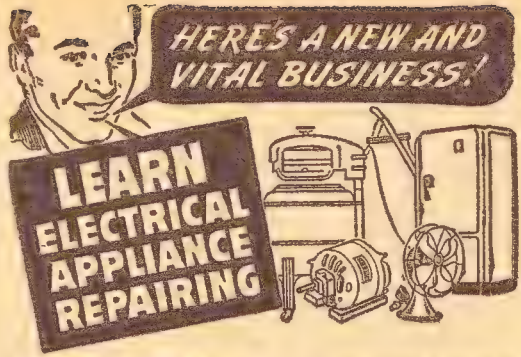

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THE STORY BEHIND THE STORY

HENRY KUTTNER, who gives us a whisper or two on the low-down behind TROUBLE ON TITAN, claims to have laced himself in whalebone stays for the occasion. "In line with Sergeant Saturn's new incar-

nation, I've endeavored to be reverent and scientific," he states in an accompanying letter. But he still reads like Kuttner to us—which is good enough for anybody.

Murray Leinster, our other current contributor, is—well, Murray Leinster. Which should be enough said on that subject. But, first, Mr. Kuttner:

It's been nearly seven years since I wrote a story about Hollywood on the Moon. I didn't really expect to write another. But from time to time I've been getting queries from readers with long memories, asking me why I didn't do some more yarns about Tony Quade—well, that's the answer. So here's TROUBLE ON TITAN for your approval, and I hope some readers will find it interesting. If you want more about Hollywood on the Moon, then I'll write more, and if not, *chacun à son goût*, and quite rightly, too.

For those misguided souls who weren't reading Thrilling Wonder in 1939, a word or two of explanation might not be amiss. Hollywood on the Moon is on the other side of the satellite, shielded by a transparent dome that retains the artificial atmosphere.

Its chief industry, of course, is movie-making. But it's a pleasure city too. And there are a few industries—moon-mining, and manufacturing of certain products that can't be transported cheaply by spaceship.

There have been various attempts to improve on methods of showing film. Various shapes and types of screens have been tried out, mostly in Europe in the Nineteen-twenties and early Thirties, and a three-panel screen has been employed with no notable success.

In some experimental French theatres different perfumes were released and circulated by fans in an attempt to match the moods of sequences in the film. There have been surrealistic films, some remarkably effective, and there have been animated silhouette movies. With the aid of two-colored lenses, a stereopticon effect can be produced.

The movie industry was based on camera trickery—it was years before the old-time producers realized that film could tell a story. As time goes on, some of the experimental work will become practicable. "Talkies" were considered a useless novelty until the Warner Brothers really made use of sound in 1928.

Aldous Huxley suggested that future theatres would use olfactory and tactile sensations to enhance the film itself. There's also the point of new subject

matter arising. The advances in technology have made some unusual films possible on new subjects.

When interplanetary travel begins, films will keep pace with the times. An entertainment-form must reflect the cultural background of the period. That's axiomatic. There will be interplanetary movies, as well as movies about the new science of the future. Much of that can't be filmed on this planet as easily as in a completely artificial environment.

Hollywood on the Moon is such an environment. Gravity-screens, to take only one example, make it possible to use android robots of such size that they could exist only in a slight gravity. They could exist on an asteriod or a world that revolved fast enough to counteract the gravity-pull.

But they can be made, and made to work efficiently, only in an artificial environment—such as Hollywood on the Moon. The business of creating entertainment can call for as intricate technology as the business of studying radar.

At any rate I hope some readers will find TROUBLE ON TITAN entertaining.

Rest assured, they have and will, Hank. TROUBLE ON TITAN is a first-rate yarn. As certainly is THE MANLESS WORLDS, second in Murray Leinster's trilogy of yarns about Kim Rendell and his war on the galactic oligarchies to come.

Says Leinster of his brain-child:

I've always been interested in wars. Most people are. They vary in numerous and subtle fashions, not only in strategy and tactics but in the motives behind them. In THE MANLESS WORLDS I'm talking about war makers in action—three of them at the same time.

There's the Empire which wants to expand. There are the men of Ades who want to be let alone, and have not only the Empire but all the little planet kingdoms as their enemies.

And in a sense there is that never-ending battle between you and me and Joe Doakes, on the one hand, and all the people who want to make something for themselves out of us, on the other. In my story, I intended to show all those three wars being fought at the same time. Maybe you didn't notice, but they are.

The one advantage I conceded to my warriors—and it is a much more important advantage than the technical devices I let them cook up—is knowledge of what they want in the way of a victory. Very few soldiers of the last few centuries have known that.

Napoleon's men very probably believed they were fighting for glory. Other soldiers have believed they were fighting for the Lord—which seems dubious to us moderns—or for their King—which was rarely true—and not infrequently they have believed they were fighting for ideals.

My fighters know what they want and they do no fighting which is not fighting for what they are fighting for. The men of the Empire who massacre male populations are simple and forthright souls, and they are fighting intelligently for their exact aims. Kim Rendell fights first for Ades and ultimately for you and me and Joe Doakes, and he does nothing to injure what he is fighting for!

If the kind of war you observe in the yarn seems strange, it's because it's intelligent war. The characters in my yarn only try to destroy hindrances to their objective. The men of the Empire kill only men. Kim kills only the Empire and—in his simultaneous other fight for you, you and me and Joe—he ends by killing only the Disciplinary circuit.

If we had fought that kind of war, not so recently, we'd have fought Fascism from the beginning and Nazism before 1933. And we'd start fighting another war right now, with weapons as remote from guided missiles and radioactive dusts as the weapons used in "THE MANLESS WORLDS" were remote from swords and pistols.

If this sounds high-hat I don't mean it that way. It was fun to write and it's always satisfying to watch people behaving intelligently—the way you like to believe you'd have behaved. I guess that's all.

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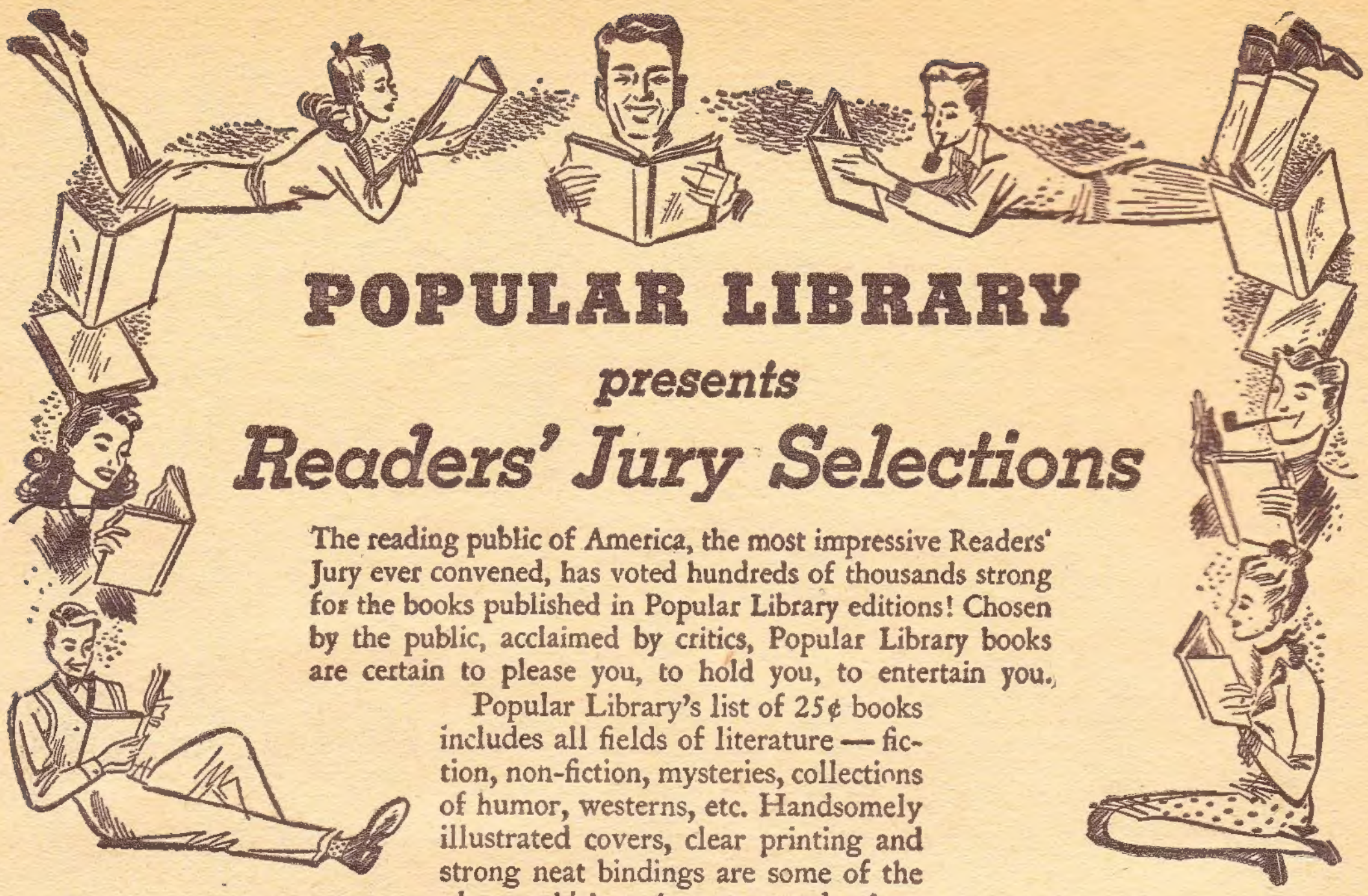

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